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WORKS ON PATHOLOGICAL ANATOMY.

1. OUTLINES OF HUMAN PATHOLOGY. By *Herbert Mayo*, F.R.S. &c. Professor of Anatomy, Physiology, and Pathological Anatomy in King's College, London; Surgeon to the Middlesex Hospital. Octavo, pp. 264. Part I. price 8s. London, 1835.

2. ILLUSTRATIONS OF THE ELEMENTARY FORMS OF DISEASE. By *Robert Carswell*, M. D. Professor of Pathological Anatomy in the University of London, &c. Fasciculus Eighth—Pus. London, 1835.

THE first work upon the list is a fresh acquaintance, introduced by an old friend, Mr. Mayo. The reputation of that gentleman must ensure his protégé a favourable reception. The second work is a continuation of the Illustrations of Pathological Anatomy, by that able and zealous pathologist, Dr. Carswell. Without further preface, we shall proceed to consider each seriatim.

The first chapter of Mr. Mayo's work is consecrated, of course, to the pathology of the bones, that punctum saliens of all anatomists, natural and morbid. The pathological phenomena displayed by them are arranged by Mr. Mayo under the heads of—reparation—hypertrophy—atrophy—inflammation—abscess—necrosis—caries—malignant growths—hydatids.

The first section is occupied with the description of the process and phenomena of reparation of bone. The description is possessed of the useful merits of clearness and conciseness; but, as it merely states what elementary works have already made familiar, we may pass it over without further notice.

HYPERTROPHY OF BONE.

Hypertrophy, Mr. Mayo defines to be the abnormal increase of a part, without inflammation or change of structure. This hypertrophy of bone may affect a part only, or the whole—the partial hypertrophy being termed an exostosis. Mr. Mayo is of opinion that, under the head of hypertrophy of bone, affections of very different kinds are classed; some nearly connected with the most salutary principles in the economy; others constituting obstinate but curable disorders; others, again, being diseases of a troublesome

or even malignant character. This imputation of vagueness of nomenclature relates, we suppose, chiefly to partial hypertrophy or exostosis. We were not aware of any great attention having hitherto been directed, or of any great confusion having yet attached to the notions of general hypertrophy of bone.

It is to exostosis that Mr. Mayo first proceeds; and, as a good account of this "partial hypertrophy" is really a desideratum, we shall notice his arrangement and his observations. He considers hypertrophy under nine heads.

1. He observes that it is a principle in the animal economy, that exercising a part serves to strengthen it. This principle is displayed in the increase of muscles, bones, and other textures, under exertion of the part they supply. In Mr. Cheshire's apparatus for weakness of the spine, the chin and the ossa ilii are compressed, or rather they have to sustain much pressure. The former bone, in patients in whom the apparatus is used, generally enlarges, and throws out a bony swelling at the part where the chin-trap tells. This is hardly, strictly speaking, an example of exostosis, a disease; for, on discontinuing the application of the instrument, the swelling disappears.

2. In infancy and childhood, the progress of growth is rapid. At those periods of life, the bones sometimes grow out irregularly and excessively. The clavicle is a bone most subject to this variety of exostosis. The disease requires no treatment, for, in the course of a year or two, either the rest of the bone grows up to the enlarged surface, or the superfluous portion is absorbed.

3. Exostoses are most frequent when the body has just attained its full growth. Yet the latter periods of life are not free from them. A patient sixty years of age applied to Mr. Mayo, with an exostosis of the first rib, which threw forward the subclavian artery, so as to give the appearance of a subclavian aneurism. He had not observed the swelling till some months before he applied for advice.

"The common situations of exostoses are the upper part of the humerus and of the tibia, and the lower part of the femur. Their shape varies with the kind of bone upon which they grow. In the long bones, they are generally narrow, of greater height than thickness; sometimes largest at their base; sometimes the reverse. In the flat bones they are usually broad, with no great elevation; sometimes they form flat discs, resting by short narrow pedicles upon bones of this class. In the round bones, they are rounded and nodular. To these laws, however, there are many exceptions.

Exostoses present in their structure all the varieties which healthy bones exhibit. Sometimes their grain is dense and compact; this is especially the case with those that grow from the cranial bones, as upon the temporal or frontal. In other instances, they have a crust of the consistence of, but of less thickness than that of the bone on which they grow, joined to a cancellous structure of the ordinary density. They appear, in some instances, as if formed by the developement of cancelli in a part of the cortex: in other words, the cortex which covers them, and that on which they rest, are together of the thickness of the cortex of the sound bone adjacent.

Exostoses have not more sensibility than healthy bone: but they are susceptible of inflammation, and then become the seat of pain; and they often occasion pain by their pressure upon more sensible parts. When in the neighbourhood of important organs, they are liable to disturb their functions. Fixed pains in the head, and epilepsy, have been produced by the growth of exostoses from the inner table of the cranium.

The causes of exostoses cannot generally be traced: it is certain, however, that they are occasionally mechanical; such as pressure or a blow.

Exostoses sometimes spontaneously disappear. Their absorption is promoted by counter-irritants, mercury, iodine. When removed by an operation, they generally do not recur. A young woman was a patient in the Middlesex Hospital, under Mr. Cartwright, with a humoral exostosis, which, after several remedies had been tried, was sawn off. In a year another exostosis grew, nearly in the same place; but on a rubefacient plaister being applied over it, an abscess formed, and the new bone was absorbed. Exostoses sometimes perish by necrosis" 13.

4. Sometimes the tumor which forms an exostosis is not, in the first instance, bony. In a child at the age of six months, a soft tumor was observed to grow from the front of the alveolar process of the upper jaw. Sir Astley Cooper removed the tumor; but it grew again, and gradually became hard. The subject of the disease grew up a fine young woman, but for the deformity occasioned by the tumor, which projected two inches and a half, and pressed the upper lip against the nose. Mr. Mayo removed the morbid growth, which proved to be an exostosis of cancellated, but extremely hard bone. It is three years and a half since the operation, and the tumor has not returned.

5. Exostoses, of a texture dense and compact, like ivory, occasionally grow from the bones of the orbit and the cylindrical bones, and attain considerable dimensions. The disease may become serious, the eye being protruded from the socket and sight lost, or the limb being rendered an useless incumbrance. The disposition to the formation of ossific tumors may prevail throughout the system, and display itself in other textures besides the bones. Number 533 (dry pathological specimens in the Hunterian Museum) is a preparation of ossification of the lungs, from a patient who died of pulmonary disease, supervening after amputation of the leg for ivory exostosis. Mr. Stanley possesses a specimen, in which it exists in combination with medullary sarcoma.

6. There is a preparation, in the King's College Museum, of a tibia and fibula greatly enlarged, but not appearing to have been inflamed. The structure of the bones is healthy. The person of whom Mr. Mayo purchased this specimen, assured him that the bones were from a Barbadoes leg.

7. A patient died in the Middlesex Hospital, who had been afflicted with epilepsy. The convolutions of the brain were remarkably flattened. On examining the cranium, the inner table of the frontal, parietal, and occipital bones, was found hypertrophied; all the arterial grooves were of unusual depth. The bones were not particularly vascular. The cranial bones, at least those of the vault, are well known to be not unfrequently much thickened in cases of idiotcy, and even mania. We lately examined the body of a child, who had long been epileptic. The frontal, parietal, and occipital bones were thickened to a great degree.

8. "A sort of hypertrophy of bone is the extension of ossification into the ligaments and muscles. In a preparation, in the King's College Museum, the femur is fixed immovably in the acetabulum by ossification of the anterior part of the capsular ligament, and of part of the iliacus internus. Mr. Langstaff, in his rich pathological collection, has a beautiful specimen of ossification, which appears to have spread from the femur, and involves the vastus internus, the

structure of which is converted into bone, but preserves externally its fibrous character." 15.

Of this kind, we suppose, is that species of exostosis so frequent at the point of insertion of strong muscles—for instance, of the deltoid into the humerus, and of the ligamentum patellæ in the tibia. Mr. Mayo makes no mention of the frequency of exostosis in these particular situations, yet still it should be known that they *are* frequent.

The alliance between the ossification of ligament, muscle, tendon, and exostosis is well shewn, says Mr. Mayo, in the remarkable skeleton called Mr. Jeff's in the Hunterian Museum. The printed catalogue thus describes it, and, as many of our readers may never see either that or the original, we are tempted to insert the description here.

"It is the skeleton of a man thirty-nine years of age, and is remarkable for the production of ossific growths from many parts, of various dimensions and extent; some forming exostoses merely, whilst others pass from one part of the skeleton to another, and have thus produced anchylosis, or immobility of most of the members. The exostoses may be observed in the os frontis, mastoid process, and occiput; and in other parts of the skeleton where muscles are attached, as near the angle of the jaw, where the masseter is inserted; at the extremities of the spines of the vertebræ, at the coronoid processes of the ulnæ, in the femur, at the part where the glutæus maximus is implanted.

The second and more extensive kind of ossifications have in general followed the course of the larger muscles, and may be seen, on the right side, in the situation of the deltoid, joining the clavicle and acromion of the scapula to the humerus, in the situation of the supra-spinatus, and passing from the inferior angle of the scapula to the humerus, in the situation of the teres major and latissimus dorsi. On the back, more extensive ossifications of the muscles appear, which affix the scapula on both sides to the sacrum and ilium, and to the spines of the lumbar and dorsal vertebræ. On the left scapula, the ossification of the teres major has not extended quite to the humerus; but the dorsum presents a singular process or ossification, with smooth sides, and a flattened overhanging margin, like an auxiliary or second spine.

From the pelvis, ossifications extend from the sacrum and ilium in the direction of the glutæus magnus; and from the tuber ischii and os pubis in the course of the biceps flexor and triceps adductor muscles; these extend to the right femur. Ossifications of the tendinous and ligamentous parts are still more common, producing anchylosis of the vertebræ, of the left elbow-joint, of the tibia and fibula to each other on both sides of the ancle-joint, and general consolidation of the bones of the tarsi." 16.

9. A general disposition to hypertrophy of bone is found, in those who have suffered from the opposite defect in childhood. In most specimens of recovery from rachitic curvature of the spine, the edges of the vertebræ are enlarged, and encroach upon the intervening ligaments. In the bones of the extremities, strong ridges are in like manner thrown up along their concave aspects. Mr. Stanley has pointed out that there is method in this abnormal growth, and that the superabundant bone is placed exactly where the curvatures of the bones render them mechanically weaker.

Such are Mr. Mayo's remarks upon hypertrophy of bone—such his divisions and general account of exostoses. We think there are several varieties of this species of morbid growth, which he has omitted to include in his category, and certainly there are several circumstances connected with them to which he has not drawn attention. Yet, with these defects, the classifi-

cation of the facts is still worthy the attention of the reader. The subject of the next section is—

Atrophy of Bone.

Atrophy is defined to be degeneration of growth, deficiency in the size and weight of a part, and commonly of one or more of its usual constituents in particular. Atrophy in bone is attended with deficiency of bone earth, and with more or less alteration of the gelatin of bone and of the medullary membrane. Mr. Mayo enumerates seven varieties of atrophy of the osseous structure.

1. Disuse weakens parts, as use strengthens them. In a limb long unused from disease, the bones, as well as the soft parts, become atrophied. A young woman had her leg amputated for disease of the tibia, which had existed for eleven years, and had prevented all use of the limb. Where not swollen by disease, it wasted. The head of the tibia was a thin shell of bone, and, instead of its proper close cancellous structure, a few fine threads only of bone were drawn across it. Among these the marrow lay in large masses, semi-fluid, supported by the medullary membrane alone.

2. In childhood, and especially in female children, the round bones are liable to a form of atrophy which corrects itself with advancing years. The weakness involves the ligamentous structures. It shows itself at the ankles, at the knees, but principally in the back: the spine becomes curved from weakness, inclining to one side at the loins, but being simultaneously bent at the upper part in the opposite direction, so that the trunk may preserve the perpendicular. This complaint is atrophy from arrest or retardation of structural growth. The weight and size of the child increase faster than the hardness and strength of its bones and ligaments. Sometimes the spine is twisted, sometimes incurvated forward as well as laterally.

3. In old age the bones become weaker and more brittle, the cortex being thinner, and, in the cancelli, the due quantity of bone earth being deficient. This is what some authors have termed the interstitial absorption of bone. It is the cause of the frequency of fracture of the neck of the thigh-bone in old persons, and of the sinking of the head and shortening of the neck of the femur at the same age. In the museum of the school at Kinnerton Street are the thigh-bones of a person advanced in life. In each, the bone is apparently quite healthy, except that it is lighter than it should be, whilst in both the head is half an inch below the level of the summit of the trochanter major, the axis of the cervix horizontal, and the cervix itself about half its usual length.

4. "Sometimes in middle life, without any assignable cause, the bones are unusually brittle. A stout-looking man was a patient in the Middlesex Hospital, with some trifling ailment. He was cutting a slice of bread, when the humerus broke. The bone united as readily as another bone; and this is observed in general of atrophied bones, except in extreme cases, or where a malignant growth exists in addition in the bone; or where the system is scorbutic, or tainted with lues or mercury." 18.

Even in cases where malignant disease does exist, and bones are fractured in consequence, union sometimes occurs without difficulty. Sir Benjamin

Brodie is in the habit of mentioning an instance of this in the case of a lady who laboured under cancer of the breast, and in whom cancer involved the bones.

5. In persons, says our author, affected with carcinoma of the breast, the ribs are commonly found atrophied, so that they admit of being cut with a knife. The cortex is thin; and the osseous plates and threads of the cancelli are thinner and fewer than natural. The cells contain a reddish-brown and slightly gelatinous fluid. The bones of the extremities are likewise often unusually brittle. Sometimes, but very rarely, carcinomatous tumors are found in these brittle bones.

In a patient who died in St. George's Hospital, of some affection, we forget what, unconnected altogether with malignant disease, the ribs, and indeed the majority of the bones, were altered in this manner. The humerus could be easily cut through with a knife, and it seemed extraordinary that the long bones had not broken in the ordinary motions of the body.

6. No definite line can be drawn between common atrophy of the bones of children and rickets, every intermediate degree of weakness being observed. In rickets, the physical changes are:—the cortex is thinner than usual, and more porous; and the bony cancelli have disappeared. The bones in the worst cases again have a consistence approaching that of common cartilage: but their texture is areolated. The cells are in some parts large, and contain a brownish gelatinous substance.

7. A certain degree of atrophy of bone occasions brittleness—a greater, produces flexibility with increased brittleness. This disease attacks adults, but is of very rare occurrence—it is named mollities ossium. There have been very contradictory descriptions of this malady, and, being uncommon, the ideas entertained respecting it are very vague. Mr. Wilson's description appears to us to be that of malignant disease of bone, and not mollities ossium. We extract Mr. Mayo's remarks upon the subject, because they embody an account of two cases, more completely tallying with a consistent notion of the real characters of mollities ossium, than the majority of such cases do.

"In the museum of the College of Surgeons, there is a specimen of an adult humerus, of which the cortex is as thin as a wafer, and the interior looks as if filled with tallow; towards the lower part, for about two inches above the condyles, the bone appears to be a vascular sac of membrane. Mr. Hunter considered this to be mollities ossium. In the museum of the London Hospital are specimens from the body of a woman, who died at the age of seventy-two, which nearly resemble that above referred to. This woman had been confined to her bed, for four years, with paralysis of the lower extremities. The hip and knee-joints had been for a considerable time permanently fixed: her appetite was always good. A month before her death, on making a slight exertion, the right thigh-bone broke: and, shortly after, the right arm. Mr. Hamilton, with great liberality, has presented to the King's College museum a preparation of one of the bones from this body; and the following is his account of the general *post mortem* appearances.

'The lungs were healthy; the heart rather large and soft; the abdominal viscera and mesenteric glands healthy. There was considerable calcareous deposit in the lumbar and iliac glands. In the cranium, when the dura mater was opened, three or four ounces of fluid escaped, and there were some small tubercles attached to its under surface. The substance of the liver was natural. The articulations were in a healthy state. The periosteum covering the bones

generally appeared natural; but over the trochanters it was entirely detached. The bones of the cranium and pelvis could be cut with a knife; while the ribs and vertebræ were but slightly affected, and scarcely less firm than usual. The bones of the lower extremities were far more extensively diseased than those of the upper. The thigh bones consisted of a mere shell of bone, filled with a fatty substance: the fractured extremities of the femur and humerus had a slight ligamentous connexion.'" 20.

In the fourth volume of the Medico-Chirurgical Transactions, Dr. Bostock describes an analysis, by himself, of "two of the dorsal vertebræ of an adult female, whose bones were discovered, after death, to be unusually soft and flexible," the result, as it was supposed, of mollities ossium. The composition of the bones was as follows:—

Cartilage	57.25
Jelly and oil	22.5
Phosphate of lime . .	13.6
Sulphate of lime . . .	4.7
Carbonate	1.13
Phosphate of magnesia .	.82
	100.00

Simple Inflammation of Bone.

We perceive nothing to detain us in this chapter. Indeed we should observe that there is what we may term, in Irish language, a vein of incompleteness throughout these sections. Individual facts are thrown together, but though they are each of course a part, they do not together form a whole. Certainly the present section offers any thing but a perfect history of inflammation of bone. The only passage that appears to require notice refers to inflammation of the ribs.

"I have seen," says Mr. Mayo, "in living persons, two instances of simple inflammatory enlargement of the ribs: one occurred in a young lady, whose general health was not otherwise considerably impaired: the result of the case is unknown to me. The other had the following history. A young gentleman, through hard study and neglect of exercise, became dyspeptic, with pain in the head, and inability to collect his thoughts. After a time, three or four of his ribs on each side enlarged, and were painful. He gave up his studies and went to the south of Europe, where he recovered. A year or two afterwards, he became a medical student in London. In a little time, his former indisposition returned; and he became again dyspeptic, with hypochondriasis, and painful swellings of the ribs. Upon going into the country, he recovered." 25.

Abscess in Bone.

That abscess should occur in a bone as a consequence of inflammation is not à priori unlikely. Yet prior to some observations published by Sir Benjamin Brodie in the Medico-Chirurgical Transactions, no distinct account of the affection had appeared. To those observations we directed full attention very lately, and we do not think it necessary to go into the subject again.

NECROSIS.

Mr. Mayo furnishes a fair account of the history and characters of necrosis. But the chief interest in the section is connected with the practice of removing the sequestrum before Nature would, unassisted, be enabled to effect its discharge. The reasons for the interference of art are obvious—the earlier termination of the disease, and, consequently, the diminution of the sufferings and of the injury to the patient's health. Sir Benjamin Brodie, in his valuable clinical lectures on necrosis, has drawn the attention of surgeons to the advantages of trephining the new bone in this disease, and removing through the openings made by the instrument part of or all the sequestrum. We have frequently seen Sir B. Brodie perform this operation with success, success that exhibits in a pleasing point of view the improvements effected by modern surgery in the treatment of this common, severe, and therefore interesting disease.

The following case detailed by Mr. Mayo will enable those of our readers who are unacquainted with the clinical lectures of Sir B. Brodie, and with his practice in this complaint, to understand the latter.

"James Mills, ætat. eighteen, in April 1834, received a severe blow on the left tibia, through a chest falling against it. The bruised part was rubbed with vinegar. He walked about as usual during the next ten days. The leg then swelled and became painful, when leeches and fomentations were used. At the expiration of a week, a surgeon opened the swelling, and a considerable quantity of matter was discharged; afterwards other openings were made, and for eight or ten weeks the limb was poulticed. The patient then began again to walk about, the limb continuing to discharge, but without much pain. Towards the beginning of January, however, the pain became again aggravated. He was now unable to walk, the leg being easy in the horizontal posture only. The upper part of the tibia appeared enlarged to three times its proper bulk. At either end of the enlarged part, and in the middle; were sinuses. A probe introduced into these passed through an opening in an outer shell of bone, and came in contact with a sequestrum within. Towards the end of March, the sequestrum was so loosened, as to yield when pressed upon by the probe. An incision was therefore made through the integuments covering the shell of bone, and the thickened skin dissected far enough on either side to give room for the application of a middle-sized trephine over the centre of the enlarged part. A circle of bone having been removed, the sequestrum was exposed, which I cut in half with bone forceps. The trephine hole was then enlarged sufficiently to allow the parts of the sequestrum to be drawn out." 32.

Mr. Mayo notices the modes of necrosis in different bones under different circumstances. In the flat bones, as is well known, necrosis is usually observed in the form of exfoliation. Sometimes a large extent of a flat bone dies, and is separated wholly. Such a case occurred to Mr. Mayo. A person sixty years of age fell from a cart, and grazing his head against the wheel, denuded the parietal bone. Towards the end of the eighth month, nearly the whole of that bone came away: the surface exposed was that of the granulating dura mater. No attempt at reparation by bone had taken place.

The lower jaw can hardly be deemed a flat bone. In that we have ourselves seen evident restoration by new bone. Partial restoration is said to have occurred after necrosis of the scapula.

Exfoliation of the articulating extremity of a bone, or of a part of it, sometimes occurs into a joint. In such cases the joint is generally destroyed; they are not very uncommon. Necrosis in these instances is usually conjoined with caries. Necrosis of the bones of the wrist and tarsus, when it occurs, as it is sure to involve a joint, is equally destructive.

Necrosis of the os calcis, however, is an exception; the bone is of a size to allow of disease in its being partial. The necrosed part may exfoliate, and the bone recover.

Caries.

Caries in bone is strictly analogous to ulceration in soft parts, and, like it, is preceded by inflammatory action. Mr. Mayo divides caries into four varieties. 1. Simple caries. 2. Syphilitic caries. 3. Strumous caries, 4. Malignant caries.

1. *Simple Caries.* Mr. Mayo gives in illustration of this form, a suppositious case. It has been observed, he says, that the bones of the leg are particularly disposed to inflammation. In persons of a constitution originally sound, hard labour, exposure to weather, bad and insufficient nourishment, co-operating with a dependent circulation, as they frequently produce ulcers of the leg, so do they occasionally produce caries of the bones of the leg. The tibia becomes inflamed, and then, instead of recovering or forming a circumscribed abscess, slowly enlarges: the cortex, already more spongy than natural, is next eaten through at one or more points: the cancellous structure within in the meantime is softened: and its cells are occupied with a thick brown fluid in place of marrow. The disease is often coupled with death of the bone, part of the carious bone undergoing necrosis. The external character of the limb is the same in necrosis and caries. The bone appears enlarged, and one or more sinuses open from it through the skin at points which are red, and soft, and sunken. He then gives several isolated cases. Of this form of describing a disease we may simply say, that it either does too little or too much. Either the cases shew all the known varieties, or they do not. If they do exhibit every form, the mode of doing so is diffuse and roundabout; if they do not shew all the forms that exist, they are of course imperfect, and are still objectionable from diffuseness and circumlocution. In an elementary work of this sort, the statements should be plain, the general principles clear and comprehensive; when cases are detailed, it should be for the purpose of special illustration, or for shewing a rare fact that no general principle contains. Mr. Mayo adopts the contrary method. His sections may be said to be chiefly made up of a set of cases strung together, sometimes without apparent order. This may do very well for a reader thoroughly acquainted with the subject, but certain we are that it never will do, for those who must form the majority of readers —pupils and men imperfectly versed in pathology.

2. *Syphilitic Caries.* Mr. Mayo's remarks upon this head are meagre. He makes no mention of the agency of mercury, in producing nodes and caries of bone, yet nine times out of ten "syphilitic caries" is as much mercurial as syphilitic. Syphilis, indeed, has credit in this as in other in-

stances for more than it deserves. Mr. Mayo makes a remark which attracted our attention, because it is not founded on very accurate observation. He observes:—"the co-existence of ulcerated fauces, and squamous eruption or other diseases of the skin, generally leaves no doubt as to the nature of the caries." Now, in point of fact, squamous eruption is not an usual companion of caries—the eruption is in the vast majority of cases of the ulcerated character, attended with scabs.

3. *Strumous Caries.* "This in many cases, bears a close resemblance to syphilitic caries: in other instances it is difficult to draw the line between it and simple caries. In a third class of cases, certain peculiar and characteristic features are strongly marked.

A young lady, whom I have attended, has suffered from inflammation of the periosteum of the tibiæ in oval patches resembling nodes. Matter has slowly formed, and the bone has been exposed in a carious state; small exfoliations have then taken place, and the wounds have healed. Three swellings of this description have formed in succession. Her appearance gives evidence of the strumous diathesis.

A gentleman thirty-seven years of age, in whom the strumous habit is clearly marked, consulted me for caries of the palate. The alveoli of the upper jaw were likewise carious. He was liable to inflammation of the tonsils, attended with ulcers. The complaint, however, was not of syphilitic origin. The sister of this gentleman has had caries and partial necrosis of the turbinated bones.

A young man, twenty-five years of age, became my patient for caries of the head and face. A small exfoliation had taken place from the os malæ of the left side, and from the right superciliary ridge. The integuments of the right side of the forehead were swollen, puffy, and tender: there was discharge from the nose, and part of one turbinated bone was necrosed. No ground existed for supposing that the disease was of syphilitic origin.

There is not, that I am acquainted with, any essential difference in the appearance of carious bones in this form of scrofula, and in the parallel cases dependent upon lues. Less pain, less periosteal inflammation, and a smaller extent of surface attacked, the absence of other symptoms, and the general physical appearance of the patient, afford a strong presumption of the scrofulous origin of the disease.

The bones of the face are peculiarly susceptible of scrofulous inflammation. The character of the complaint is often clearly established by the formation of extensive scrofulous abscesses upon the temple or upon the cheek, or at the angle of the jaw; and by the chronic enlargement of the lymphatic glands of the neck.

Of the bones of the head, the frontal and the temporal are the only ones which I have known involved in this form of strumous caries.

The sternum is often affected with strumous caries, characterised, as in the face, by the formation of extensive scrofulous abscesses. The seat of the suppuration is the anterior mediastinal cavity. The bone may require to be perforated with the trephine, to give vent to the matter." 42.

We have seen extensive strumous caries in the parietal bone of the head of a young woman. But certainly the most usual situations of strumous caries are the ends of long bones, and the cancellated structure of the round and mixed varieties of bones, the tarsus, the carpus, and the vertebræ. We have seen many instances of strumous nodes upon the tibia, especially in young females. They seem to begin with inflammation of the periosteum, followed by suppuration between it and the bone, and ultimately caries of the latter.

Mr. Mayo makes a remark, which though just, may deceive the inexperienced reader. He observes that some will include under the head of simple caries cases which he shall describe as scrofulous, and that it is certain that fewer diseases are now considered scrofulous than formerly. The latter observation is strictly true. Yet pathologists are becoming, perhaps, too prone to resolve all actions into one, and to banish all ideas which wander from their own abstract standard of unity. The cultivation of pathology has tended to this evil, slight indeed in comparison with its important services, and slighter because it leads after a time to its own correction. M. Andral, one of the most philosophical pathologists of the day, has confessed the error to which pathology has given birth, and in his excellent work has done justice to the correctness of that empiric observation, which of itself discovered that all processes in the human body are not similar, and that one mode of action, call it what we will, will neither explain nor produce all the phenomena presented to our observation.

We apprehend, to return to the specific remark of Mr. Mayo, that although the term strumous was formerly greatly abused, yet that many affections must still be admitted to arise from a condition analogous to what we know as a scrofulous diathesis. It is impossible to explain these peculiar effects, by supposing them to arise from simple inflammation. Some modifying agency there evidently is, and if we do not choose to call that scrofulous, we shall only be forced to call it something else.

It is difficult to deny, and few do deny the correctness of general principles like this. It is their application which occasions the disputes. In order to diminish doubt and difficulty, precision of ideas and terms is necessary. We should agree to some general definition of scrofula, discriminate its characters, and ascertain the pathological condition of bone, which accompanies them. Such is the mode of evidence which would satisfy the philosophical reasoner, and a lesser degree should be rejected. Let us see how Mr. Mayo manages the question. He brings forward this case as an instance of scrofulous caries.

"I amputated the leg of a patient, twenty-five years of age, five months after a compound fracture of the tibia and fibula. The bones had shown a disposition to unite, but the general inflammatory swelling of the limb which supervened upon the accident, never subsided. Large collections of matter formed in the calf of the leg, and about the ankle. These were opened in succession, and the patient as many times rallied from the hectic fever and exhaustion which they produced. At last there formed above the knee-joint an extensive abscess; which was opened; when a profuse discharge of matter took place, and afterwards of blood and matter alternately. It was now that the limb was amputated, but too late to save the patient. In the knee and ankle-joints the cartilages were found partly absorbed, and what remained reduced to a thin shell The articular aspect of the bone, which had become exposed, was highly inflamed. The narrowed and thin shells of cartilage which were left, were found to tear very readily from the bone: when torn off, the detached surfaces were found to be covered with bony particles, showing that the separation must have been effected by rupturing the inflamed surface of the bone. On further examination, the whole articular aspect of the condyles was found to be highly inflamed and softened, for the depth of one to two lines. The bone beyond was perfectly healthy." 44.

The above *might* be an instance of scrofulous caries of the bone, no doubt;

but we see no satisfactory evidence that it was so. No mention is made of the presence of the ordinary marks of a strumous habit—it was not previously shewn by dissections, nor indeed by arguments, that the pathological state discovered, is a state confined to or extremely frequent in scrofulous cases—and, in short, we are told, and we may believe it if we choose, or dispute it if we feel inclined, that this was an instance of strumous caries, and the declaration that it is so is at once the assertion and the proof.

The characters that really denote scrofulous inflammation in bone, are shewn in the work of Sir Benjamin Brodie, by the process of investigation we have mentioned. They are—the deposition in the cancelli of tuberculous matter, an unorganized substance of a yellow colour and of the consistence of curd. We need say no more on this point, as we lately presented so very full a notice of Sir B. Brodie's work. We therefore proceed to the last kind of caries described by Mr. Mayo, the ulceration of the bones in lupus, and the ulceration of the jaw in cancer. But his observations offer nothing to detain us.

MALIGNANT GROWTHS OF BONE.

Mr. Mayo describes six varieties of malignant tumors of bone existing either separately or in combination. They are, malignant exostosis, osteo-sarcoma, medullary sarcoma, fibrous tumor, cyst-like tumor, melanosis.

Of malignant exostosis no further is said than was mentioned in the section upon exostosis.

Osteo Sarcoma. We extract Mr. Mayo's description of this, as it combines perspicuity with brevity.

"It consists," he says, "in a growth of substance, nearly resembling epiphytic cartilage in texture, originating either upon the surface or in the cancelli of bone. The form of the tumour is commonly more or less spherical: it may attain so great a volume as to be nearly a foot in diameter.

When an osteo-sarcoma is small, the surface displayed by a section is tolerably uniform, or differs from the most transparent cartilage only in exhibiting minute oblong or irregular cavities. When an osteo-sarcoma is larger, cavities of a considerable size are found in it, which contain a reddish fluid. In parts the texture grates when cut, and contains phosphate of lime. The phosphate of lime is distributed so as to form a kind of skeleton of light bony plates disposed in a manner that looks like a crystallization. The growth of such a tumour is commonly rapid. When it begins in the interior of bone, the disease is attended with pain: when it forms on the outer surface, there is commonly no pain at all. An osteo-sarcoma has to the touch the firmness and elasticity of cartilage. This disease is ordinarily met with in the bones of the extremities, and in the lower and upper jaw. The cranial bones and the vertebræ are less frequently, if ever, attacked by it. The disease does not, that I know of, invade any other texture than bone: it bears, however, some external resemblance to gelatiniform cancer of other parts. It has not much malignity, so that when all the bone involved in it, with part of the adjacent sound bone, is removed by amputation, the complaint seldom re-appears either in the part, or in another bone. If the part is not amputated, the skin over the tumour sloughs or ulcerates, the tumour is exposed, and a discharge, sanious or ichorous, takes place from it, under which the patient gradually sinks." 51.

We may make two observations upon the foregoing description. We doubt

whether osteo-sarcoma can be separated so clearly and so satisfactorily from medullary and other alterations of bone, as Mr. Mayo seems disposed to think. A boy had the thigh amputated for a growth possessing all the characters attributed here to true osteo-sarcoma, which grew from the internal condyle of the femur. The wound made by the amputation was not quite healed, when symptoms resembling those of phthisis supervened. The boy died, and tubercles of medullary sarcoma were found to exist in the lungs. We believe it is acknowledged that morbid growths from bone resembling in their origin osteo-sarcoma, may finally be converted into true malignant degenerations. Here then we see two reasons why osteo-sarcoma can scarcely be altogether separated from other malignant tumours of bone, and probably the amount of our present knowledge is little more than this—that tumors possessed of these particular characters are less generally followed by the evidences of constitutional contamination, than other malignant growths, and that though they sometimes become confounded with the latter, they are sometimes found distinct from them.

Mr. Mayo relates an interesting case of osteo-sarcomatous growth from the tibia. The tumor was dissected off the bone. A fungous tumor sprang from the cicatrix. Amputation was then performed above the knee. The stump healed, but the cicatrix again ulcerated, and the disease re-appeared at the end of the femur. Mr. Mayo proposed amputation at the hip-joint, which the patient very judiciously declined, and, the tumor slowly increasing, he died. Mr. Mayo remarks that—the practical deduction from the preceding case is that, in osteo-sarcoma, it is a degree safer to amputate at a joint, than to risk, in a constitution disposed to this action, the exciting it in another bone by the saw. We do not clearly perceive the force of this conclusion. The case proves certainly the ill success of amputation; but it does not, nor do we see that it possibly can prove, that no re-appearance of the malady would have occurred, if another operation had been practised.

Mr. Mayo makes a remark, the propriety of which we are disposed to doubt. "When new formations (he adds) appear in bone with the local characters of malignant disease, they have not the same rootedness in the system, as when they originate in the soft parts; so that the removal of a bone attacked by malignant disease is not in general followed by a return of the complaint. For example, in one who has suffered amputation of the breast for medullary sarcoma, the disease is sure to recur; but when the leg is amputated for the same disease originating in the tibia, the chances are greatly in favour of the patient's permanent escape." We almost fear that Mr. Mayo overrates the chances of escape after operations for malignant growths from bone. Did we trust our own observation and experience, we should say that the disease appears in other parts, in a very large proportion of cases. We could call to our memory, at the present moment, too many instances of failure after amputation of a limb.

3. *Medullary Sarcoma.* On this we have only two remarks to make. 1. Mr. Mayo declares that medullary sarcoma of bone generally, if not always, arises in the cancellous structure. That it does not always do so, we are certain. In two cases of medullary sarcoma of the femur, the disease clearly originated in the superficies of the bone, or between it and the periosteum; and, in an instance of medullary sarcoma of the ilium, we no-

ticed the same thing. At the same time it must be owned, that the cancelli form the most frequent nidus for this morbid growth.

4. *Fibrous Sarcoma.* There is a form of malignant disease of bone, of which the texture is firm, white, and fibrous. Its origin, Mr. Mayo believes, and its place, to be exclusively periosteal.

This disease is met with on the tibia. If simply removed from the bone it grows again: the limb must be amputated.

The same growth is liable to form upon the cranial aspect of the dura mater, to push its way through the bone by absorption, and to project great masses of sarcomatous growth upon the head and face.

5. *Cyst-like Tumor.* In the heads of the bones of the extremities, and in the lower jaw, a disease, which has the general characters of malignant growth, is found, when examined after death or amputation, to consist in a great cyst, or series of cysts, containing gelatinous liquid.

6. *Melanosis* in bone is rare.

"The diseases which have been enumerated are as often met with combined as separately.

Mr. Stanley possesses a specimen of ivory exostosis, combined with medullary sarcoma.

Mr. Stanley gave to the King's College museum a section of a tumour upon the femur, which he had amputated. It consists, at one part, of medullary sarcoma; at another of fibrous sarcoma. The medullary sarcoma appeared to have originated in the cancelli of the bone, and had caused absorption of the cortex, which became extenuated, and the femur broke. The fracture is surrounded by a large soft tumour; part of this tumour is medullary, part consists of a firm, white, opaque substance, not cartilaginous.

In a leg amputated at the Middlesex Hospital for malignant disease, the cancelli of the tibia contained brain-like substance, or true medullary sarcoma. The crust of the bone was thin and brittle. The muscles of the back of the leg were externally healthy; but near the bone, in place of their proper texture, there was substituted a firm white substance, corresponding to Mr. Abernethy's description of mammary sarcoma. The fore part of the leg had a remarkable tenseness and brawny hardness: the skin was red and thickened. The former appearances were produced by a very singular lobulated subcutaneous texture, to which Mr. Abernethy's term of pancreatic sarcoma was strikingly applicable. This part of the disease appeared to me a conversion of the adipose tissue into a malignant growth.

There is an excellent case related in the 120th Number of the Edinburgh Medical and Surgical Journal, illustrating at once the connexion between osteosarcoma and medullary sarcoma of bone, and a remarkable feature, which is occasionly present in the latter disease—a pulsation, namely, as if the tumour were aneurismal. The pulsation is probably communicated from the contiguous arterial trunk." 55.

These remarks, taken with what we have incidentally observed, will serve, we fear, to shew that, however we may artificially arrange the various morbid growths from bone, much uncertainty still exists with respect to the real nature of each, and the actual amount of relationship of all. It is certain hat they are more or less convertible, and more or less combined, and, in

the present condition of our knowledge, we can hope for no more than a general approximation to the truth. The practical deduction is, we fear, unsatisfactory—that too many of these morbid growths are liable to return after an operation, in the site of the wound or in other parts, and that the knife should be employed early, if at all.

"True scirrhous in bone I suppose to be of rare occurrence. I have mentioned that there exists, in the King's College museum, a specimen which looks like a scirrhous tumour, which was found in the medullary cavity of the femur of a person labouring under cancer; and there are in London several other preparations of a similar description. But I am not acquainted with an instance of an undoubted scirrhous *enlargement* of bone.

Mr. Sweatman has a remarkable specimen of scirrhous periosteum. A woman, about seventy years of age, was a patient in the cancer ward of the Middlesex Hospital, for carcinoma of the breast. About a month before she died, one eye was observed to protrude; and three days before her death she became suddenly comatose. Upon examining the skull, the dura mater and pericranium, and orbital periosteum, for a considerable extent on the affected side of the head, were found to be thickened and hard: the dura mater was, at one part, a third of an inch in thickness; the arachnoid adhered to it, and partook in the same thickening. The bone is not diseased, but is something more vascular than usual.

In the museum of the College of Surgeons there are several specimens of thickening of the pericranium and dura mater. No. 607 is a section of the right temporal and parietal bones of a young woman, twenty-five years of age. A tumour projects externally, about half an inch above the surface of the parietal bone; and there is a similar tumour situated exactly opposite, on the inside of the skull. These tumours appear, in the preparation in spirits, not unlike that just described, except that the part towards the skull appears opaker than the rest. The opposite section, however, is preserved dried; by which means the opaker part is shown to consist of short bony threads, in close apposition, which have no continuity with the cranial bones, on which they rest, but must have formed within the tumour. The tumour I suppose to have been malignant periosteal growth. The intervening portion of the cranium is sound, but unusually vascular." 57.

Hydatids in Bone.

All writers who have noticed this affection of bone, have transcribed the case, or an epitome of the case, published by Mr. Keate in the tenth volume of the Medico-Chirurgical Transactions. In that case the hydatids were found in the os frontis, just over the left eye-brow. The case has been so frequently quoted, and must now be so familiar, being contained more than once in the pages of this Journal, that we may safely pass it by.

This terminates the Pathology of the Bones. The second Chapter is devoted to that of the Articulations. On casting back a glance at the pages we have quitted, we perceive some interesting facts, and what is professed an outline of a systematic arrangement. Yet much, of course, is matter devoid of novelty, and even what has some claims to novelty, is, probably, from the very nature of the subject, in some degree obscure and doubtful.

The Joints.

Mr. Mayo considers first the diseases of the Synarthroses, or Immoveable

Articulations, and, secondly, those of the Diarthroses, or Moveable Articulations.

Synarthroses exist between the bodies of the vertebræ, and between the pelvic bones. Mr. Mayo first enumerates, which we need not do, the component textures of these articulations, and then their properties and their alterations.

"Fibro-cartilage, when torn, is susceptible of reparation. In fracture of a vertebra, the adjacent fibro-cartilage is generally ruptured; if the patient lives, it unites just as bone unites. The texture of the cartilage of a rib is perhaps too dissimilar to that of intervertebral substance, to be used in illustrating the properties of the latter; but I may take the present opportunity of mentioning some experiments made by myself upon reunion of these parts. The cartilage of a rib was divided in several animals, which were killed at different periods afterwards. I found the initiatory stages of reparation which had been set on foot to be exactly similar to those in bone. The cellular membrane surrounding the divided part was first consolidated into a firm capsule, which contained the cut ends of the cartilage. This consolidation was produced by infiltration with lymph; an exudation of the same substance formed a medium of direct union between the ends of the divided cartilage. The reparatory capsule gradually became converted into a texture resembling cartilage. As, in the reparation of bone, the callus changes into cartilage, and then ossifies, subsequently to which direct union of the broken ends by bone takes place, so, in the restoration of a costal cartilage, the exterior thickening becomes cartilaginous, while the direct union of the divided ends is still by lymph alone." 63.

Fibro-cartilages are susceptible of absorption, through pressure made upon them, but the quantum of absorption is less in them than in bone. In aneurism of the descending aorta, the intervertebral fibro-cartilages are found to be only superficially absorbed, when the bodies of the vertebræ are already deeply excavated. Mr. Mayo thinks that the intervertebral cartilages are partially absorbed also in cases of lateral curvature of the spine.

"Fibro-cartilages generally, it may be presumed, are susceptible of inflammation. The only instance, however, in which I have found this demonstrable, occurred in the semi-lunar cartilages of a knee-joint. Ulceration of the cartilages covering the bones had taken place, with high inflammation of the adjacent surface of the bones, and of the capsular synovial membrane. The semilunar cartilages (the knee having been injected after amputation) were red with the vermilion, swollen, and softer than natural; and when divided, showed, upon the surface of the section, extremities of cut vessels." 63.

Fibro-cartilages may undoubtedly ulcerate, become the seat of suppuration, and slough. These morbid changes are seen in the intervertebral substances.

Mr. Mayo classes the diseases of the vertrebral column under two heads—atrophy and inflammation. The first is exhibited in the lateral curvature of young persons—the second in ordinary spinal disease. To this subject, however, we need advert no further, in consequence of the full manner in which we treated of it, in our review of the work of Sir Benjamin Brodie. The only other observations on the subject of diseases of the synarthroses, which deserve particular attention are contained in the following quotation.

"Disease of the pelvic joints is of unfrequent occurrence. At the time of labour, however, an affection occasionally takes place in these joints, which is

sometimes distinctly inflammatory, while at other times it bears the character of simple absorption of the fibro-cartilage. I witnessed an instance in which, after labour, an abscess formed behind the symphysis pubis, which was attended by a sense of weakness and giving of the pubic joint, which lasted several weeks, but gradually went away. Cases of this description are the most common. But sometimes the sacro-iliac joints are principally affected: there is no suppuration, but extreme weakness at these joints, which lasts many months. The patient is obliged for a long period to keep the recumbent posture; and then, and afterwards while recovering strength, derives remarkable comfort from bandages round the pelvis.

The following case, which was under my care, exemplifies commencing disease in the sacro-iliac synchondrosis, brought on by external violence.

A gentleman was riding in Hyde Park, when his horse reared, and fell backwards, bearing him to the ground. He was lifted up by those around, when he found himself capable of walking, with assistance. I saw him a short time after the accident. The only part bruised was the integument covering the back of the sacrum, and more to the right side than the left. There was no fracture that I could ascertain, nothing but the bruise; and, as it afterwards appeared, a strain of the right sacro-iliac joint. The patient could bear the ilium to be pressed in any direction, and could, as I have mentioned, both stand and walk. In the evening considerable pain came on: he was cupped upon the hip, and experienced relief. The following day the cupping was repeated. After a month, during which this patient had kept his room, and the pain had nearly left him, he went, for change of air, to Richmond; when a child accidentally touching his foot, as he lay on a sofa, he drew up the limb suddenly. Upon this he experienced a sensation, which he described to be like displacement of the bones at the right sacro-iliac joint; and he fancied he recollected, that, at the time of the accident, he had felt a similar sensation; but certainly neither then, nor at this time, did pressure upon the ilium, in a direction to strain the sacro-iliac joint, bring on this sensation, or cause any thing like sensible motion of the joint. The pain now became gradually very severe, and extended down the limb, in the course of the sciatic nerve.

It was a year and a half from the occurrence of the accident before this patient had recovered. In this period many remedies were tried; those which were most beneficial were, strict observance of rest, and the application of caustic issues over the joint. When by these means the pain had been entirely subdued, cold sea-bathing rapidly restored his strength." 70.

We are disposed to agree with Mr. Mayo that slight inflammatory action, must be looked on as the ordinary and operative agent in the production of most of the alterations of the synarthrodial joints. No doubt the inflammation is of a low description, but the evidence and probability are in favour of its existence.

Diarthroses, or moveable articulations, and their affections, are next treated of by Mr. Mayo. The affections of the bones that enter into their composition he enumerates thus:—restorative action after fracture—atrophy—eburnation, or the solidifying into a texture like ivory—inflammation, with its numerous consequences—and deposite of scrofulous matter in the cancelli. The affections of cartilage are—reparation,—softening—ulceration—inflammation—and gouty concretion. We may notice Mr. Mayo's account of the varieties of softening and of ulceration of which cartilage is susceptible.

"Cartilage is susceptible of two forms of softening; one may be considered true atrophy. It is often met with on the cartilage of the patella in persons a

little advanced in years. The cartilage is softened, and seems split into soft, thick villi. The change is accompanied both by partial absorption of the cartilage, and by a growth of the ends of the isolated villi in delicate shreddy productions, to which the synovial membrane probably contributes. This condition of cartilage deserves to be viewed, not as disease, but as natural degeneration of tissue.

The second form of softening is of rare occurrence; in it the cartilage becomes semi-transparent and gelatinous. In a case of severe inflammatory disease of the knee-joint, with caries of the articular surfaces of the bones, and inflammation of the synovial membrane, I found near the crucial ligaments, for the extent a sixpence would cover, the synovial aspect of the cartilage on the inner condyloid cavity of the tibia softened and semi-transparent for two-thirds of its thickness.

Cartilage is susceptible of three varieties of ulcerative disease.

In the first, the cartilage disappears very rapidly, the absorption beginning upon the synovial aspect, leaving a surface perfectly healthy and smooth, either of cartilage or of bone. This change supervenes with great rapidity after compound dislocations, in which the wound does not heal, and the cavity of the joint remains exposed.

In the second, the process of absorption is slower, and produces an irregularly excavated and ulcerated surface on the synovial aspect. This condition of cartilage is a very common element in chronic articular disease. I believe it to be generally, if not always, preceded by synovial inflammation.

In the third, the process of absorption commences on the aspect of the cartilage towards the bone. I believe that this kind is essentially dependent upon inflammation of the articular aspect of the bone. The absorption takes place with two effects: one, the diminution of the thickness of the cartilage; the other, its detachment from the bone." 73.

The changes of synovial membrane and of ligament offer nothing to detain us.

Mr. Mayo having disposed of the individual morbid alterations of these individual tissues, proceeds to view the latter in their natural form of combination, as articulations—and the former in their natural combinations also, as groups of phenomena constituting the diseases actually presented to the observation of the surgeon. The heads under which he describes the affections of joints are these:—1. Injury and reparation. 2. Inflammation of ligaments. 3. Heightened sensibility of the synovial membrane, cartilages, and ligaments. 4. Inflammation of the synovial membrane with increased secretion of synovia, from local causes. 5. Inflammation of the synovial membrane with increased secretion of synovia, produced by causes of general or specific action on the constitution. 6. Inflammation and ulceration of the synovial membrane. 7. Inflammation of the synovial membrane without effusion, attended by rapid disappearance or absorption of the articular cartilages. 8. Inflammation of synovial membrane with chronic ulcerated excavation of the articular cartilage beginning on its synovial aspect. 9. Inflammation of synovial membrane with caries of the articular aspect of the bones. 10. Extra-articular inflammation, producing ulceration of cartilage, and caries. 11. Strumous caries of the ends of bones producing articular ulceration. 12. Growths from the synovial membrane.

The phenomena attending injuries of joints and their reparation are first considered by Mr. Mayo. He shews that, after an injury, the wound may unite by the adhesive inflammation—or, that inflammation of the synovial membrane, followed by suppuration, ulceration of the cartilage, and so forth,

may ensue. Sometimes the wound unites by the first intention, but, a copious secretion of synovia into the articulation ensuing, it gives way, and permits the escape of the fluid. Cases of this kind may be found in various works, and Mr. Mayo adds one to the list. Perhaps the most instructive is contained in the work of Sir B. Brodie. It is that of a gentleman from the knee-joint of whom he removed a fungous tumor. Mr. Mayo presents a concise account of the difficulties that obstruct the reduction of a dislocation, and interfere with the retention of the bones in situ when reduced. Yet these may be passed by.

Mr. Mayo relates some cases of inflammation of the ligamentous textures.

"*Case.* A gentleman struck his knee, and neglected it. Some months afterwards I saw him, when he laboured under the following symptoms. He had been now for many weeks confined to his bed or his sofa; the least exertion was followed by heat and pain in the knee. The joint was in a slight degree larger than the sound knee; but it contained no fluid; and pressure of the articular surfaces against each other produced no pain. It caused no pain to rest his weight upon the extended knee; but when he stood on the other leg, and allowed the diseased knee to hang or swing, he felt uneasiness in it, which was greatly increased by twisting the knee. When he remained perfectly still, he would experience no uneasy feeling in the joint for several days together; and then, without any visible cause, the joint became a little heated, and the skin slightly reddened. The same effects followed any deviation from the strictest rest." 80.

We have ourselves seen several cases in which there could be no doubt from the nature of the accident and of the symptoms, that the ligaments were the principal seat of inflammation. Those symptoms, we should say, may almost admit of resolution into two—pain on pressure of the ligament involved—and pain on the application of any thing which disturbs its state of rest. If the leading sign of affection of the cartilages of an articulation is pain when they are compressed, the leading sign of inflammation of a ligament is pain when it is stretched. But the production of suffering on the forcible elongation of the textures of a joint, is not certain evidence of affection of its ligamentous textures only, as affections of the synovial membrane, give rise to the same symptom. It must, therefore, be a combination of positive signs of implication of the ligaments, and negative signs in respect to the synovial membrane, that can constitute satisfactory proof of the affection of the former.

Mr. Mayo next adverts to an affection of the joints, which appears to be of what is called a neuralgic character. He says that the symptoms are limited to pain increased by motion and exquisite sensibility of the articular surfaces to pressure. He relates three cases, the two first for the purpose of displaying those symptoms, the third with the view of exhibiting, so far as that can be exhibited, its pathology. The latter case is the only one to which we think it necessary to direct attention.

Case. H. A. ætat. twenty-two, the catamenia regular, having suffered during four years pain in the knee-joint, which, although sometimes greatly mitigated, never entirely left her, at length, when every remedy that could be thought of had been tried, and the pain had much increased, underwent

amputation of the leg. The symptoms had been pain and increased sensibility, and nothing more; the joint, with the exception of slight œdema arising perhaps from the local remedies, had not swollen, nor had there been any mechanical impediment to motion. On examining the amputated knee, which had been previously injected, the capsular synovial membrane was found of a bright red. The synovial membrane covering a small part of the semilunar cartilages was likewise very vascular. At the upper part of the patella, the same appearance was seen: towards the lower part, the synovial membrane, for the extent of five lines by two, was not only red with injected vessels, but considerably thickened. Soon after the stump healed, it was accidentally struck. To this cause, probably without reason, the patient attributed a return of pain exactly similar to that which she experienced before the amputation of the leg. When the pain had gone on several months increasing in severity, the patient, anxious at any expense of immediate suffering to get well, submitted to another operation. The pain and tenderness were seated in the last three inches of the stump, not more upon one aspect than another, although most acute as it seemed in the part of the cicatrix covering the bone. The extremity of the stump was therefore amputated, a second portion of bone sawn off, an additional portion of the sciatic nerve taken off in the operation, and the bone and nerve buried in a full bed of relaxed muscle and integument. On examining the part removed, the sciatic and the saphenus nerves were found to terminate in large white cartilaginous bulbs, behind but not adhering to the cicatrix. On the stump healing, the pain recurred, and, after some months of its continuance, the sciatic nerve was divided under the edge of the glutæus muscle. When the wound healed the sufferings of the patient were as great as before.

Unfortunately, this is not a solitary case, nor an unparalleled example of the want of success attending the performance of surgical operations for the relief of the symptoms and the sufferings that it displays. Whether the surgeon is justified in resorting to the knife in such cases, is a difficult question to determine. Sometimes it has brought relief, more often it has not. The patient is not unfrequently so anxious to catch at any straw, that he anticipates the surgeon, and may almost be said to demand an operation. As a general rule, such operations should not be countenanced, for they inflict present misery and unnecessary risk, and when unfortunate, as too commonly they are, in their results, they bring discredit on surgery and its professors.

When we say that these cases are neuralgic, we go very far indeed towards confessing that we do not exactly know what they are. It is what our Hibernian friends would denominate a negative affirmation. There is no great structural alteration discoverable, and for practical purposes a neuralgic malady of this description may be generally said to be functional.

But occasionally our pathology assumes a more decisive character. As in the instance of other disorders of the nervous system, for example epilepsy, we are sometimes gratified by what appears to be a tangible cause for the phenomena that were presented. Mr. Mayo refers to a specimen in the museum of St. Bartholomew's Hospital. The patient had such symptoms as were present in the case described already. After years of suffering, the knee was amputated, and no appearance of disease was discovered in the joint. Upon her death, which happened two or three years after the ampu-

tation, the spine was examined, and the posterior, or sentient surface of the chord was found studded with little plates of cartilaginous or bony deposit. Our ignorance is every now and then relieved, and our hopes are excited, by the discovery of such an Oasis as this in the desert pathology of the nervous system. Yet for once that we find a spot upon which we may satisfactorily repose, we are a thousand times compelled to abandon the idle search in despair.

We may pass over Mr. Mayo's description of inflammation of the synovial membrane—of rheumatism affecting it—and of gonorrhœal inflammation of the joints. But we may pause at "a class of cases of rare occurrence," first described by himself in the eleventh volume of the Medico-Chirurgical Transactions. With these our readers are probably not so familiar as they necessarily must be with the others.

"The disease consists in acute inflammation of the synovial membrane, with rapid absorption of the articular cartilage, attended, not with effusion into the joint, but with considerable œdema or supperation external to it. The attack begins with sudden pain in a joint, and swelling round it, not attended with much symptomatic fever; and it frequently, in twenty-four to forty-eight hours, entirely leaves the joint first attacked, and settles in another. The pain continues for several weeks with hardly abated severity, then goes away, and the joint is found to be anchylosed. Leeches repeatedly applied, and superficial caustic issues, have appeared to me of manifest utility in lessening the pain." 90.

Mr. Mayo relates five cases in illustration of this description. We must candidly own that we think both the cases and description imperfect, and we do not feel quite sure that more than one affection are not comprised in this picture of an individual. We will, however, present one of our author's cases before we indulge in any further observations.

Case. A young woman, twenty-seven years of age, six months after labour, was seized with pain and swelling of the wrist. The next day, the right knee was attacked in the same manner. The following day, the pain and swelling left the joints first affected, and attacked and settled in the left knee. Six weeks after the commencement of her illness, Mr. Mayo saw the patient. The thigh and leg were swollen with serum effused in the cellular membrane; the joint contained no fluid; the pain in the knee was very acute and constant, and increased by the least motion; the patient lay on her back, with the knee straightened. The application of leeches to the part gave no relief; cold applications and fomentations were equally inefficient; repeated blistering appeared, at one time, to be of service; small doses of calomel and opium were administered frequently, during a few successive days, with no advantage. At length the pain seemed to abate spontaneously, the swollen state of the limb gradually subsided, the patient recovered the appearance of health, but the joint was wholly immoveable.

To this case we think we should add another which is very short, and which is intended to illustrate the pathology of the complaint.

Case. A young woman was admitted into the Middlesex Hospital in the Summer of 1829, four or five weeks after her confinement, in a state of great emaciation, with a large abscess below the fascia of the thigh, extending

from the knee to more than half way to the groin. The abscess did not communicate with the joint, which contained no fluid, but was contracted. The tibia was drawn backwards upon the condyles of the femur. In six weeks. this patient sank and died. Upon examining the knee-joint, the cartilage of the condyles of the femur was found to be entirely absorbed towards the edge, the bone exposed being healthy. The cartilage covering the condyles at other parts was uniformly attenuated, but smooth, and strongly adherent to the bone, which was healthy.

We seldom find very graphic descriptions very accurate. Something is and must be sacrificed for effect. We felt some misgivings on reading Mr. Mayo's description of the complaint. Acute inflammation of the synovial membrane, with rapid absorption of the articular cartilage, attended with no effusion in the joint, but with œdema or suppuration on its exterior, lasting almost unabated for weeks, then going away, and leaving the joint anchylosed, seem clear and curious enough in print, but not quite consistent with what one sees in practice. The first case detailed by Mr. Mayo affords some slight clue to this mystical pathology. That case has all the characters of one of rheumatic inflammation, and of nothing more. First one joint was affected, then another, and finally the malady settled in one knee, with the ordinary symptoms of ulceration of the cartilage. The disease as often happens in rheumatic affections of the articulations, terminated favourably in anchylosis.

In this, there is nothing to excite our surprise; it is a case which is not unfrequent. But such a case, or many such, would be insufficient to establish Mr. Mayo's positive annunciation of a form of disease, in which acute inflammation of a joint does *not* occasion effusion into it, but, having lasted for a certain time, passes off, and the articulation becomes anchylosed. So far as we can see, the affection described by Mr. Mayo is generally of a rheumatic origin, that is, occurs under the circumstances which usually give rise to rheumatic inflammation. But it is not the joint alone which is affected; the cellular and fibrous textures external to it are involved in the disease. Sometimes they are more severely implicated than the joint itself —sometimes the affection of the latter is secondary, and produced by the extension of the inflammation from without. We have seen such cases, exactly tallying with the description offered by Mr. Mayo—and we have seen others, in which that description is obviously imperfect. In the former instances, the disease was not sufficiently intense to occasion suppuration in the joint—in the latter that occurred, and, instead of a favourable termination being the result, ulceration of the cartilages, suppuration within the joint and without it, and death, have been the course and consequences of the complaint. In short, we believe that Mr. Mayo's notice of this particular form of articular disease is too exclusive, and exceedingly imperfect —that he has selected for its subjects the slighter forms of the affection to which we have alluded, and probably other species of diseases of the joints also—and that a more extended observation and experience will lead him to correct the narrow picture he has drawn.

In order to illustrate our own remarks, we will briefly mention the particulars of a case or two which we have witnessed.

Case. A girl was admitted into St. George's Hospital, under the care of

the late Mr. Rose. She was of a strumous habit. She had been exposed to cold a short time previously to her reception in the institution. One knee was swollen, but the swelling extended also up the thigh, and down the leg. There was great pain on pressure of the articulating surfaces together, or, indeed, on any motions of the joint, and there was also extreme suffering on pressure of any of the swollen part of the thigh or leg, but particularly of the former. Leeches, blisters, splints, and calomel and opium, were the means employed. The symptoms gradually subsided, and the patient recovered, with an anchylosed knee-joint.

Case. A young female, some weeks after parturition, was attacked with swelling of the lower part of the left thigh. In the course of ten days or a fortnight, she was admitted into St. George's Hospital. The lower two-thirds of the thigh were much swollen, pitted on pressure, and were extremely painful when touched or moved. There was also great pain in the knee-joint, which was rather swollen. Leeches, calomel and opium, &c. were employed, but the patient was seized with the symptoms of low fever, and, in six or seven weeks after her admission into the hospital, she died. On dissection of the limb, the swelling of which had greatly diminished, there was found suppuration under the vastus internus muscle, and an ulcerated aperture in the synovial capsule allowed this matter to communicate with the joint. In the latter, the cartilages were partially ulcerated.

Case. A washerwoman, after exposure to cold and wet, was suddenly attacked with swelling and violent pain in the thigh and knee. In a very few days after the commencement of the attack, she was admitted into St. George's Hospital. The lower two-thirds of the thigh were greatly swollen and pitted upon pressure. But the swelling had, notwithstanding, an elastic character, and the skin was of a glossy white. The knee was swollen also, and apparently contained fluid. The pain on attempting to move the limb, as well as upon pressure, was excessively severe. The constitutional disturbance was great. We need not mention the treatment employed. It was quite ineffectual in arresting the progress of the disease. The sufferings were very great—the swelling continued undiminished—an abscess was detected on the inferior surface of the knee, and was opened. Typhoid symptoms were established, and the patient in a short time died.

On dissection, the principal seat of the disease was found to have been in the periosteum, and cellular tissue immediately external to it. The former was stripped from the femur throughout its lower half, and lying loosened and dead in the midst of pus. The synovial capsule was ulcerated, so that the matter on the exterior of the joint, communicated with matter collected within it; the articular cartilages were partially ulcerated.

The treatment of these cases, always formidable, often fatal, is a matter of equal difficulty and importance. Active local depletion or counter-irritation, succeeded by caustic issues—perfect rest of the limb by means of splints—and calomel and opium, with colchicum internally, are the means that answer best. But the most severe cases generally prove fatal.

Mr. Mayo proceeds to describe chronic ulceration of the cartilages. We have noticed this so fully in our reviews of the work of Sir Benjamin Bro-

die, and of the paper of Mr. Key,* that we need not break up that ground again. We shall content ourselves with borrowing the following hints from our author.

"In studying the progress of these affections, the surgeon will remark the following points. Often when the complaint, upon being first submitted to proper treatment, has appeared to yield, and the pain and swelling have materially abated, suddenly, without any evident cause, the symptoms will return with aggravation, compelling in a few weeks some decisive step to be taken. Of all the remedies used simply, or in combination with others, rest is the most efficient. Of the others, fomentation is the next in value. Yet there is uncertainty as to the effect, even of this simple remedy: I met with an instance in which fomentation aggravated the articular pain, which was only allayed by the application of ice, that was used for a fortnight together. Leeches and caustic issues, again, which are so generally useful in these complaints, are serviceable for a period only, after which they often irritate. The articular action, when at its greatest height, and untouched by every remedy, and threatening the destruction of the joint, will occasionally spontaneously become mitigated, and rapidly diminish, and finally subside. The symptoms will sometimes be greatly aggravated by collections of turbid synovia, or pus, in the bursæ adjacent to the affected joint: the pain resulting from this cause may be removed by puncturing the cyst, and letting out the distending fluid: it is easy to ascertain, that the fluid in the adjacent bursæ has no communication with the articular cavity. I have opened, with great relief to the patient, collections of turbid synovia in the sheaths of the tendons of the inner hamstring muscles, and abscesses external to the capsular membrane of the knee joint formed in the cellular tissue." 99.

We agree with Mr. Mayo that rest is a very important item in the list of remedial means. But we cannot agree with him in thinking that next to rest must be ranked fomentations. Indeed we perceive a remarkable inconsistency between his views and practice. For he goes much farther than Sir Benjamin Brodie in his opinion that the disease is inflammatory in its commencement, yet, holding such a notion, believing that ulceration of the cartilage originates in inflammation of the synovial membrane, he is still contented with remedies so inert as rest and fomentations—the very symbols of the médecine expectante.

For our own parts, we are not so satisfied as Mr. Mayo of the existence of any synovial inflammation worthy of mention, as the initiative of the disease we are considering. But we are quite satisfied, that whether that opinion be correct or not, moderately active antiphlogistic treatment is extremely useful in the early stage of the complaint. We are also satisfied that limbs and lives are not unfrequently lost—from the surgeon overlooking the early symptoms of ulceration of the cartilage, and neglecting the means we have alluded to. Whenever an individual experiences pain in an articulation, aggravated by motion and by pressure of the articulating surfaces together, that surgeon will probably sacrifice his patient who does not enjoin and ensure absolute rest, and employ local depletion and counter-irritation until either the symptoms have been removed, or it is manifest that by such means they are irremoveable. We do not pursue this subject further, as our object is not to discuss the whole treatment of ulceration of the cartilage, but merely to advert to the principle which should regulate our practice at the commencement.

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* In the Medico-Chirurgical Transactions.

Our readers are aware that within these last few years excision of diseased joints has been loudly recommended and frequently performed by Mr. Syme, of Edinburgh. He has published many cases in which it has been successful in his hands. Of the operation Mr. Mayo expresses the following opinion, which we believe to be a close approximation to the truth.

"Of excision of the articular ends of bones in joint disease, what I have seen of it leads me to speak with no approbation. I suspect, that, where it has been performed successfully, it has been performed before the degree of exhaustion which renders an operation decidedly necessary, has arrived. When an operation is clearly required, the constitution has generally no longer force enough to support the tedious process of that restoration which follows excision. It is better, in my opinion, to wait till all chance of other cure has failed, and then to amputate. The shoulder joint appears to me the only one, in which, from the inapplicableness of amputation to the case, excision of the articular ends may be recommended." 100.

Our own observation, so far as it goes, tallies very nearly with that of Mr. Mayo. When we look at the cases detailed in the work of Mr. Syme, we are struck with the number of instances of excision of the elbow joint. Yet how seldom is amputation required for disease of that articulation, how seldom, comparatively speaking, does Nature fail to patch up, if not to cure the complaint, to produce anchylosis, if not to permit a cure. This is a staggering circumstance; for if excision is especially applicable to cases in which amputation is very seldom necessary, it is probably of little use in those really severe cases in which the knife must be employed for the preservation of the life.

Mr. Mayo necessarily adverts to strumous caries of the bone combined with ulceration of the synovial aspect of the cartilage—to strumous caries—and to destructive disease of the articulation consequent on inflammation in contiguous parts. As an instance of the latter he mentions the following case.

Case. "A lad was a patient in the Middlesex Hospital, under the care of Dr. Watson and myself, for what I may describe as a suppurative fever. After cold in the head and suppuration of the ear, a return of rigor took place, and increase of fever; and abscesses formed in succession over the great toe, over one shoulder, in the loins, and behind both hip joints. He sank under the profuse discharge.

The abscesses were found to communicate with the different joints, the synovial membranes of which were in great part ulcerated away, and the cartilages of all the articular surfaces absorbed. Yet I am certain, from careful observation of the case at its commencement, that the joints were not affected in any way when the matter was first formed in their vicinity. The joints at that time contained no fluid, and were not painful, not put in pain by rubbing the articular surfaces against each other." 103.

After injuries and operations, collections of matter sometimes occur in the larger and indeed in the smaller articulations, followed, if the patient lives tolerably long, by ulceration of the cartilage on its synovial surface. We have seen great destruction of an articulation effected in this manner.

As Mr. Mayo remarks, fractures near a joint are also liable to be followed by inflammation, suppuration, and ulceration of the articular cavity. This is neither uncommon, nor unlikely, and need not detain us any longer.

The affections of the synovial membrane are reviewed in the next place by our author. He describes in order;—1. What Sir B. Brodie has termed morbid alteration of structure of the synovial membrane;—2. That affection

in which the synovial membrane of the knee has been found covered with innumerable little processes, something like melon seeds in shape and colour, some larger, others smaller, pendulous into the cavity of the joint. Sir B. Brodie describes three preparations of this disease. One was purchased at Mr. Heaviside's collection—the second belonged to Sir C. Bell in Great Windmill-street: the symptoms in both were unknown—the third preparation, as well as the first, is in the museum of St. George's Hospital, and there is reason to believe that in this instance the excrescences were the result of long-continued inflammation of the synovial membrane. In all three the history both of symptoms and of causes is palpably defective. In Mr. Mayo's case a slight additional glimmer is afforded.

"A patient, between thirty and forty years of age, laboured under inguinal aneurism: the artery was tied, but ulcerated above the ligature. I tied the common iliac, but he sank. He had suffered for several years with occasional attacks of what was considered rheumatic gout in the knee; that is to say, with pain, swelling, and weakness. After a time, these symptoms would get better; but the knees always remained a little enlarged. They presented the appearance described above. The joints contained a few drachms of synovia." 105.

The third alteration of the synovial membrane mentioned by our author, occurred in the body of a female examined at King's College. It is a flattened tumour attached to the ligamentum mucosum, immediately below the patella; it is circular, an inch and a half in diameter, and half to two-thirds of an inch in thickness. It is covered by synovial membrane: the peduncle of the tumor is little more than a reduplicature of synovial membrane half an inch in breadth: the articular cartilages are partially ulcerated. The tumor consists of two substances; a nucleus of the size of a small bean, of a gristly or fibro-cartilaginous texture, contained in a softer membranous substance.

Mr. Mayo refers to a case related by Sir Benjamin Brodie, in which he cut into the knee-joint of a young man, for the purpose of extracting a tumor which occasioned all the symptoms commonly produced by a loose cartilage in the articulation. Violent inflammation succeeded, but the patient ultimately did well. The tumor possessed a firm fleshy structure, and was manifestly organized. It was attached to the synovial membrane below the synovial membrane, by a broad adhesion. This interesting case is related at length in the work of Sir Benjamin Brodie and is contained in our extended notice of that admirable volume.

"I have at present," says our author, "under my care a patient, in whom I suppose that a tumour of a similar description has formed upon the inner surface of the head of the tibia immediately below the edge of the cartilage. The patient is rather a nervous female, thirty-six years of age, who three months ago, having previously observed the right knee to snap on moving it, was taken with acute pain at the place of the present tumour. There was no swelling of the knee, nor pain at any other part of the joint. She was desired to apply a blister at that time, which considerably increased the pain. When the skin had healed after the blister, she first observed a tumour as big as a large pea, but flatter, on the inner surface of the head of the tibia; it was at first, and continues to be, tender on pressure. The tumour occasions her great inconvenience. She can only walk with comfort, by placing the outer edge of the foot on the ground. If she inadvertently rests upon the sole of the foot, she is seized with sickening pain in the joint, and falls down. The same pain is brought on, when

the knee, being bent, is rotated inwards. The tumour is situated immediately before the internal lateral ligament; and every motion which brings the edge of that ligament a little forwarder, causes it to compress the tumour and pain is produced. This patient derives great comfort from a bandage, which confines the motion of the joint, and prevents the ligamrnt sliding over the tumour." 108.

In his observations upon loose cartilages in the joints, Mr. Mayo is averse to the performance of an operation, unless bandaging and means of that description have been tried without success. As Mr. M. remarks, and with justice, what renders this palliative practice the more adviseable is, that loose bodies in a joint that for several years have caused repeated attacks of pain and inflammation, occasionally, from some cause or other, cease to do so.

Diseases of the Bursæ Mucosæ.

We see no remarks upon this head by Mr. Mayo that deserve particular attention, with the single exception of a passage in reference to enlargement of the bursæ over the inferior angle of the scapula. He observes:—

"The bursa situated between the latissimus dorsi and the inferior angle of the scapula is liable to become distended with a very considerable quantity of fluid. In this state it should be punctured, and the puncture healed, if possible: the fluid is to be again let out on its recommencing. But the bursa, if greatly enlarged, is more likely, upon being opened, to suppurate. In the latter case, after discharging for some weeks, it will probably dry up, and the case terminate favourably." 111.

We notice this passage in order to enjoin caution in meddling with this, or indeed with other bursæ, when considerably enlarged. We have seen death occur from the suppuration induced in this bursa by a puncture. We have also seen death ensue from the employment of the seton. The symptoms in both instances were of a typhoid character—such symptoms as occasionally follow the exposure of the cavities of large abscesses. On the whole we are not by any means enamoured of operations on the bursæ, unless, as in the instances of the bursa above the patella and the olecranon, they are purely subcutaneous.

Mr. Mayo proceeds to the pathology of the muscles, after which he takes up that of the cellular tissue, the nervous system and the skin. The consideration of the morbid alterations of these tissues we are under the necessity of deferring till our next number. The rapid advances of pathology render an accurate acquaintance with its facts indispensable to every one who aspires to even a moderate amount of professional attainments. On this account we have for some time past endeavoured to present in each number of this Journal, an article devoted to the exposition of some pathological points. We are anxious to avoid deferring a notice of the last fasciculus of Dr. Carswell, and to include with it and with the review we are now quitting some portion of the later labours of Cruveilhier. We must therefore, as we said before postpone till our next number an analysis of the remainder of the first (the present) Part of Mr. Mayo's Outlines of Pathology. Yet before we quit it, although but for a season, we would recommend the many purchasers of the Physiology of the same author, to make themselves possessors of this kindred system of Pathology. The two go hand in hand, and—

Each gives to each a double charm
Like pearls upon an Ethiop's arm.

The eighth Fasciculus of Dr. Carswell's Illustrations of Pathological Anatomy lies before us. It is occupied with the consideration of the morbid product—Pus.

Dr. Carswell starts with an account of the various theories of the mode of production of pus, which preceded the present, and, no doubt the true belief, that it arises from secretion. We need not resuscitate the absurdities that prevailed before the advent of the new doctrine, but we think the short sketch presented by our author of the manner and the period at which that doctrine was introduced, may not be without interest to our readers. We shall transcribe the passage to which we refer.

"The opinion, however, that pus is formed in the capillary vessels by a process analogous to secretion, was first suggested by Dr. Simpson, of St. Andrew's, in the year 1722. 'If any foreign body,' he observes, 'be introduced between the edges of a wound, and the external air excluded, pus will continue to be discharged as long as you please; so that by this means, a *kind of new gland* is, as it were, produced. But if the wound be irritated or too much compressed, the properties of the liquor discharged will be immediately altered, as is well known to surgeons. Hence it follows that nothing is more easy than to change the secretions and humours of the body without the addition of any new matter or ferment, merely by changing the diameters and number of the secreting vessels.' De Haen announced a similar opinion about the year 1756, from having observed that pus is often expectorated for a great length of time, by patients affected with phthisis, in whom, after death, no mark of ulceration could be perceived, not even the place in which the pus had been formed. From these circumstances, De Haen was led to believe that pus must have been immediately secreted from the blood, and adds, 'that although the blood appears to be a homogenous fluid, yet it is manifest that there is something in it when collected which is of a tenacious consistence, of a whitish, or yellowish colour, and which might be called the matter of pus.' The opinions contained in the writings of De Haen seem to have suggested to Dr. Morgan the new theory of the formation of pus, which, as has been remarked by Professor John Thomson, was first embodied into a general doctrine, and subjected to a full discussion in his inaugural dissertation printed at Edinburgh in the year 1763, entitled, Puopoieses, sive Tentamen Medicum de Puris Confectione. The principles of the new theory of the formation of pus which had been thus introduced, soon found several able supporters, among whom Mr. Hunter may be regarded as the first who furnished satisfactory evidence of their accuracy, by means of new facts and illustrations derived from his experiments on living animals, and his researches on suppurative inflammation and on pus." 2.

Dr. Carswell presents a view of the opinions of Mr. Hunter on the subject of pus and of suppuration, and shews that that indefatigable physiologist considered both a consequence of inflammation, and the former a remove further from the nature of the blood than the lymph poured out in the adhesive inflammation. This sentiment has been confirmed by the recent investigations of Gendrin, who observes that between the purulent fluid of inflamed tissues and organized coagulable lymph, there is only a difference of degree.

Dr. Carswell next offers a view of the process of suppuration, as it occurs in parts in which its phenomena can be distinctly seen, and their nature can be, in some degree at least, determined.

Gendrin, who investigated, under a great variety of circumstances, the changes that take place in inflamed tissues, gives a minute account of the

process of suppuration. He excited inflammation in the web of the frog's foot and in the mesentery by means of boiling water, the actual cautery and the seton, and followed with the microscope the gradual development of pus from the globules of the blood. He relates as having distinctly seen the globules of the blood, after having been brought to a state of stagnation in the capillaries, becoming deprived of their colouring envelope and opaque, and assuming a yellowish grey colour approaching to that of pus; that he has then traced them moving slowly in the capillaries or in new-formed vessels, and as they advanced towards the edge of the ulcer or eschar occasioned by the violence of the inflammation, gradually acquiring all the physical character of perfect pus. Kaltenbrunner, than whom there does not appear to have been a more able, cautious, and philosophical observer, had, before the researches of Gendrin were published, arrived at nearly the same results. The microscopical researches of this author, however, would seem to shew that not only is the blood which is carried into the inflamed tissue, but likewise a portion of the solids, converted into pus; for he states that small granular bodies are seen to separate from the *parenchyma*, to pass into canals which are formed for their reception, and to mingle with others of a similar kind coming from the blood, both of which are gradually converted into true granules of pus. The result of these researches is, that the formation of puss is a consequence of a modification of the blood, manifested especially by a change in the colour, transparency, and bulk of this fluid, after its circulation has been arrested in the capillaries by inflammation—that this change in the globules takes place in the capillary vessels, and that these vessels conduct the globules in this state to the exterior, where they appear combined with the serum of the blood under a peculiar liquid form, or that which we call pus.

"Such," says Dr. Carswell, "is one mode in which pus is formed, that in fact, which has been likened to the process of secretion. There is, however, another mode, which, to a greater or less extent, is, perhaps, always in operation at the same time with the former, but which, under certain circumstances, is effected alone, and from its not having been properly understood has created much confusion, and given rise to opinions the most repugnant to the principles of a sound and philosophical pathology. I allude to the formation of pus in the blood, under circumstances in which the influence of the capillary system, as exercising a function of secretion, can have no part. Some evidence has already been adduced in favour of this mode of formation of pus, and which may be called *extra vascular*. Thus we have seen, that besides the conversion of the globules of the blood, contained in the capillaries, into pus, there was also observed a similar change in those of the blood effused into the cellular tissue around these vessels; in fact, the whole of the blood, *intra* and *extra*-vascular, was seen to undergo the same gradual change of colour from red to yellowish grey; the globules in both situations became opaque, acquired an increase of bulk, and passed slowly towards the surface of the part, either in the original or new-formed capillary vessels in the form of pus." 5.

Our author proceeds to instance what happens to the effused blood in violent inflammation of the cellular tissue. That tissue, with its capillaries, minute arteries, and veins, is distended with that fluid. When suppuration supervenes, the gradual discoloration, softening, and conversion of the whole into pus, succeed to each other, and must be produced on the same principles as those observed in the blood of a single capillary under the micros-

cope, for the pus is equally perfect in both cases. Dr. C. has on several occasions been able to satisfy himself that this mode of formation of pus often occurs to a considerable extent in blood effused into the cellular tissue, from external violence, and when followed by acute inflammation; but he has most frequently observed it in the blood which has ceased to circulate in inflamed veins. Thus, in the first case, the conversion of the blood into pus is proved by this latter fluid alone being found some time after in the swelling which had been originally produced by the effused blood. Gendrin has put this fact beyond all doubt by direct experiment. "If, after having injected," observes this author, "a great quantity of blood into the subcutaneous cellular tissue, a seton is passed through the same tissue in order to excite a certain degree of inflammation, the blood is rapidly converted into pus, as if it had escaped from the vessels themselves of the part."

"In phlebitis again," continues our author, "the conversion of the blood into pus can often be most satisfactorily demonstrated. As soon as inflammation of a vein has acquired a certain degree of severity, one of the most remarkable circumstances which attracts our notice, is the cord-like hardness of the vessel. The blood has ceased to circulate through it—it has coagulated. At a subsequent period, however, we find that this state of the vessel becomes less conspicuous, and disappears, sometimes suddenly, no cord-like swelling or induration being afterwards felt. Now, further examination shews that the latter occurrence was the result of the blood having been converted into pus." 5.

The gradual phases of this conversion are exhibited by the dissection of a phlebitic limb. In the veins which are but slightly inflamed, the blood is found in a state of fluidity, and presents the colour of venous blood; in those in which the inflammation is marked by great vascularity, serous and albuminous effusion in the middle and external coat, it is coagulated, slightly adherent to the internal membrane, or united to it by a thin layer of unorganized coagulable lymph, and exhibits the colour of arterial blood. As we approach those portions of the veins in which the inflammation commenced, or in which it has proceeded to the suppurative stage, the arterial colour of the blood passes gradually into a pale yellow or that of fibrine, of which it has at first also the consistence, but becoming soft, pulpy, and creamy, until it is at last lost in the puriform matter contained in the vessels or in the surrounding tissues.

We can bear sufficient testimony to the accuracy of these statements. It was but the other day we examined the condition of the veins in a case of inflammation of the femoral and iliac veins. The coagulum was converted in parts into a substance so exactly similar to pus, that independently of refined analysis there was no appreciable distinction between them.

"From all these facts," continues Dr. Carswell, "it must be evident that the capillaries could have no share in the purulent transformation of the blood in the examples which have been brought forward of this change, and therefore it follows that the formation of pus cannot be restricted to a morbid process induced in these vessels by inflammation, and the subsequent separation of the elements of this fluid from the blood. In these experiments and observations there are, however, three striking circumstances which, from their constancy, the regularity of their occurrence, and the uniformity of their results, must be regarded as having a common origin, or as consequences the one of the other: these are, the cessation of the circulation, the coagulation of the blood, and the conversion of the fibrine or globular structure of this fluid into pus.

These three series of changes we have always seen succeeding to each other, that is to say, the globules of pus made their appearance in the fibrine of the blood which had become deprived of its colouring matter after having been brought to a state of stagnation in the capillaries, in arterial and venous trunks, and in lacerated excavations formed in the cellular tissue. But we have also seen that these changes were always preceded by inflammation of the tissue in which the blood was contained, and the pus that was immediately derived from this fluid. That inflammation was the common origin of these changes cannot, therefore, admit of a doubt; and as it has been proved that they constitute the process of suppuration, the legitimate conclusion at which we arrive is, that this morbid process is essentially dependent upon inflammation as its efficient cause." 6.

We are not quite sure that we have made much advance in our real knowledge of the mode in which the process of suppuration takes place. It is generally admitted that pus is a secretion from the capillaries, and, being a secretion from those vessels, it must of course be formed from the blood. Supposing the preceeding observations to be accurate, they carry us only one short step higher, when they prove the blood whence the pus proceeds must previously be stagnant. That mere stagnation of blood is insufficient, is proved by the large extravasations that are quietly although very slowly absorbed. Inflammation, then, must be added to the stagnation of the blood, and this much disputed process must be called into the field at last. There are two circumstances that ought not to be lost sight of;—1, that in certain cases of stagnation and coagulation of the blood, where inflammation is not supposed to exist, softening in the centre of the clot takes place. This we have seen occur in the "polypi" of the heart, and in the museum of St. George's Hospital is a drawing exhibiting an instance of this description. 2, A surface continues to suppurate for a length of time. Is it meant that the blood must still be stagnant in the capillaries, in order that the quantities of pus which we see a wound secrete from day to day, may be formed and dissolved, as it were, from that coagulum? These considerations induce us to extend some degree of doubt to the theory or the observations which would make us presuppose coagulation of the blood as a necessary antecedent to suppuration.

Our author adverts next to a very interesting subject, the nature and the mode of formation of what have been denominated the Purulent Deposits.

Dr. Carswell commences the consideration of the origin of these deposits by a rather startling announcement. He observes that, as the deposits in question occur in various parts of the body without being accompanied by the usual characters of inflammation, the point has been mooted—is the presence of pus always to be considered as a product of inflammation of the part in which it is found? He conceives that much of the difficulty attending the solution of this question would be done away with if the distinction between suppuration as a vital act, and the mere presence of pus as its product, were previously well understood. If, he proceeds, pus is found in an organ where none of the characters of inflammation can be detected, the necessity of the above-mentioned distinction must be obvious. As an instance of the formation of pus without appreciable marks of inflammation he cites the fact of pus being found in the centre of cardiac polypi. But it is his mode of using this fact, which, as we observed just now, rather startles us.

"I have never (says our author) met with a case of anomalous formation of

pus, either in the cavities of the heart, in the cellular or parenchymatous structure of organs, or in the cavities of serous membranes, without finding at the same time inflammation and suppuration to a greater or less extent in some remote organ. It may, indeed, be asserted, that this is also the almost uniform result of the researches of other pathologists, although Andral, Maréchal, and some others, have rather vaguely stated that they have met with puriform matter in fibrinous concretions of the heart, without the presence of pus being detected in any other organ of the body. Such cases, several of which I have also seen, are very different from those now under consideration. The fluid matter of these concretions, so far as my observation goes, never resembles pure pus; it is a thin, grumous, grey, or reddish-coloured fluid, but probably puriform in its nature, as it resembles the contents of those concretions which are formed during life in the cavities of the heart, in some cases of inflammation of the internal membrane of this organ, succeeding to rheumatism of the joints. If such be the origin of puriform collections of this kind, they of course come under the head of suppuration, and do not form an exception to the law, that the formation of pus in the blood and in the other parts of the body which I have enumerated, under circumstances which disprove its connexion with inflammation as cause and effect, has never been shewn to take place without being preceded by suppuration in a remote organ." 8.

Now on this point we are disposed to join issue with the Doctor. We have already referred to a drawing of pus in the centre of cardiac polypi, contained in the museum of St. George's Hospital. We saw the case from which that drawing was derived. The patient laboured under passive dilatation of the heart and dropsy. He had no perceptible suppuration in any other organ, yet the pus in the cardiac coagula was as like pus as any we have ever seen. The evidence of its being pus was quite as good as is generally obtained and admitted. At the same time, we are disposed to agree with Dr. Carswell that pus, as a rule, is either the result of inflammation of the part, or of suppuration (the consequence of inflammation,) in other parts.

Our readers may know that the cause of the purulent deposits has been, of late years, a vexata quæstio. Some have placed it in nervous agency—some in the necessary antecedence of phlebitis. We cannot coincide with those who see in phlebitis the whole and sole cause of these secondary deposits; but still we believe that it is a very common one—more common than we were formerly led to suppose. The following extract embodies an epitome of many of the facts connected with the origin of these formations.

"The situation of the pus in these cases of suppurative inflammation is another circumstance which deserves particular notice. In the great majority of cases, this morbid product is found in the veins of the affected part. In idiopathic phlebitis, in phlebitis of the uterus following delivery, and even in phlebitis after bloodletting, it is sometimes found only in the veins; whereas, in phlebitis succeeding to external injuries or operations, it exists, often extensively, at the same time, in the intermuscular cellular tissue, in the canals and cancelli of the bones. It is found in the smallest veins that can be traced by dissection, in the largest trunks of the extremities, and pelvic viscera, and even in the vena cava. In some cases, the quantity of pus does not amount to a drachm, in others it measures several ounces. The number of veins in which it is found varies from a very few, small or large, to the whole of those of the arm or forearm, or of the uterus. The arteries, in such cases, never contain any pus, nor have I met with it to any extent in the lymphatics, except in uterine phlebitis, in some

cases of which these vessels were distended with it, the veins being in a similar state, or containing only a very small quantity." 8.

On the whole, Dr. Carswell is led to conclude that the purulent deposits result from the entrance of pus into the circulation—a theory which, though defective, is probably nearer the truth than any other that has yet been advanced. Dr. Carswell thinks it both satisfactory and complete. The latter we do not think it, as certainly the secondary inflammations occur, where no primary suppuration elsewhere existed. The steward of St. George's Hospital was detected in the commission of a grave offence. The disclosure affected his mind to a very extreme degree. He fell into a state of low fever, and in a few days died. His lungs were found studded with the purulent deposites, while all the rest of the body was sound. We have dwelt on this subject so fully on previous occasions, that we shall not go into the discussion again. One other point, and we have done.

"In order to complete the history of purulent deposits, it may be remarked that the number of organs in which they occur, varies considerably. In some cases only one organ is affected, sometimes to a very small, sometimes to a great extent; whilst in other cases a greater or less number of organs are affected in a similar manner. The lungs and liver are far more frequently affected with these deposits than any of the other organs of the body, whatever may be the seat of the lesion in which they originate. Recent observations shew that those of the liver are not more frequent after injuries of the head than of the extremities. Of all the organs of the body, the kidneys are least frequently the seat of purulent deposits. The few cases which are recorded as examples of this kind, appear to have been the result of inflammation, extending to the kidneys from neighbouring organs, and succeeding to the operation of lithotomy, to injuries of the spine, to the presence of calculi, and to various diseases of the pelvic viscera. We cannot, perhaps, appreciate the importance of this circumstance, but it is extremely probable that it is to be accounted for by the separation of the *material* cause of these depositions from the blood carried into these organs, and its excretion along with the urine." 11.

We agree with Dr. Carswell, that the kidneys are very seldom affected; but we have seen them so twice or thrice. In the St. George's School of Anatomy, in Kinnerton Street, there is a preparation, exhibiting distinct purulent deposit in the kidney, unaccompanied with any contiguous inflammation.

The fasciculus before us terminates with some general observations on the properties of pus.

Dr. Carswell remarks, and remarks with justice, that the attempts to obtain accurate discriminating marks between pus and mucus have been ineffectual, and, if effectual, would be practically useless. For as mucous, and indeed serous membranes, when inflamed, furnish pus, the latter is no certain test of ulceration. The physical characters of pus are familiar, and we need not recapitulate them here. Dr. Carswell's account of its chemical properties is succinct and good.

He remarks that, being a product of secretions, pus must be chemically modified by the nature of the tissue from which it is derived, as well as by those various morbid conditions which are known to modify the products of secretion in general. It is on this principle, continues Dr. C. that we explain the difference which exists, particularly at the commencement and termination of suppuration, between the pus furnished by serous and mucous

membranes, the quantity of albuminous matter being much greater in the former than in the latter case; and, as has been observed by Gendrin, that the pus furnished by the granulations in caries contains a greater quantity of the phosphate and muriate of lime; the puriform discharge of scrofulous ulcers a large proportion of soda and the muriate of soda; and that which is found in the tissues surrounding the joints in gout, an excess of the carbonates, phosphates, and, perhaps, the urate of lime. A difference in the degree of the inflammatory excitement of the affected part; the supervention of an acute disease in a remote organ; a sudden emotion, whether followed by great excitement or depression, &c. produce also obvious changes in the physical, if not in the chemical characters of pus.

Dr. Carswell notices Mr. Pearson's arrangement of the varieties of pus:—1, creamy pus; 2, curdy pus; 3, serous pus; 4, slimy pus; to which Andral has added a 5th, concrete pus, which is the same as the curdy of Mr. Pearson, but deprived of a great part of its serum by absorption, such as it is often met with in scrofulous abscesses. They are found to be composed of albumen in a state of concretion, water, extractive matter, a substance resembling adipocire, and various salts. Chemical analysis, therefore, does not establish any important distinction between pus and the serum of the blood, the difference, in this respect, between the two fluids consisting in the state of concretion of the albumen, and a modification of the extractive matter.

In conclusion, our author observes that investigation has not yet discovered in what the specific properties of pus consist. The matter of a syphylitic sore, a small-pox pustule, and a common phlegmonous abscess, does not appear to display peculiar properties in those various states and circumstances.

The plates of this fasciculus are, as usual, beautiful. They represent the purulent deposits in their various forms and their various situations. Phlebitis, too, is shewn, and the whole are well worthy of purchase and of study. As a work, these Illustrations of the Elementary Forms of Disease must be deemed possessed of high interest and merit, and that medical library is incomplete, that medical man's store of useful volumes is imperfect, which does not contain this among its biblical treasures.

STATISTICAL INQUIRY INTO THE PRESENT STATE OF THE MEDICAL CHARITIES IN IRELAND, &c. By *Denis Phelan*, Surg. Dublin, 8vo, pp. 325.

THE œconomy of the Irish medical charities is very different from that of similar institutions on this side of the Channel. Like most of the French Hospitals and Maisons de Santé, they are supported chiefly at the expense of the Government; and the internal management of their affairs, and, therefore, the patronage connected with the greater number of them, are almost entirely in the hands of official men. This is a state of things which is ever to be regretted; for, while this exists, the works of charity are not the off-

spring of that tender and amiable feeling which delights to do active good without display, but are the mere ordinances of public authorities, which endeavour to mitigate one evil, under the dread of incurring another of greater magnitude. The annual expense of the Irish medical charities amounts to upwards 163,000*l.*, and it appears that this sum is derived from the following sources:—

Treasury Grants to County Infirmaries	£ 2,653
Annual Parliamentary Grants to Dublin Hospitals . .	14,374
County Presentments	82,839
Private Subscriptions and Donations	39,078
Petty Sessions and other Fines	1,742
Produce of Property belonging to several Hospitals . .	23,225
	£163,911

By the 5th and 6th Geo. III. it is provided, that one infirmary for the relief of the diseased poor shall be erected and established in each county in Ireland. The funds of these county infirmaries are to be derived partly from county presentments (600*l.* per ann. granted by the grand juries,) petty-sessions fines, treasury grants, and private donations and subscriptions; and the salary of the medical officer (200*l.* per ann. provided there is only one infirmary in the county) is paid, one half from the public treasury, and the other half from a county fine, levied by the grand jury. The proportion which the amount of the private funds of these county hospitals bears to that of the public funds is very small; affording thus the most satisfactory proof, that the respectable inhabitants of the districts feel but little interest, and exercise but little control, on the affairs of these charities. We may take the year 1828, as affording a fair estimate of the state of their funds. It appears, from the official report of the Board of Health for that year, that the whole amount of donations, subscriptions, petty-sessions fines, and other contingencies, was only 1973*l.* for twenty-nine counties, whilst the treasury grants and county presentments were no less than 17,022*l.*

The governors of these county infirmaries consist of the Primate, the Lord Chancellor, the Bishop of the diocese, and the Rector or Vicar of the parish, in which the infirmary is built, along with donors of twenty guineas, and annual subscribers of three guineas.

Mr. Phelan has pointed out, at great length, the principal defects of these Irish county infirmaries, and we trust that the members of the legislature, and all who feel an immediate interest in the well-being of Ireland, will attentively consider the objections which he has urged. The great medical blemishes in the organization of these establishments are the two following:—The eligibility of the surgeons and physicians being limited exclusively to graduates of the Dublin medical and surgical colleges; and, secondly, the appointment, at least in many cases, of only one surgeon or physician to an infirmary.

In reference to the first of these blemishes, we are sure that we express the firm conviction of every liberal medical man, that such a state of things ought not to be tolerated any longer. We can suppose that the enlightened councils of the medical and surgical colleges in Dublin, may be actuated by a similar spirit to that which has so long *distinguished* the same fraternities

in this metropolis; and that they wish us to believe, that no physician or surgeon can exercise his profession properly in Ireland, on the one hand, and in England on the other, unless he has derived his license from their respective boards; but we trust that a new and a better æra is about to commence speedily, and that all local and exclusive privileges of medical corporations will be utterly swept away. To argue the question of such a monopoly, as it was capable of dispute, ought always to have been, and thanks to Mr. Warburton now is, quite unnecessary. The simple position, that a medical man who is deemed fit, by any publicly-recognized university or college, to practise his profession in one part of the kingdom, ought surely to be capable of doing it equally well in all others, is a truism so obvious, and, withal, so reasonable, that we shall ever regard it as one of the foulest blots in the present existing corporations, that they have striven hard on all occasions, and by all means, to oppose and to nullify its spirit and operation. We now pass on to the other defect in the medical constitution of the Irish county hospitals—that, namely, of many of them having but one physician or surgeon, and having no competent medical officer residing within their walls. In some of the infirmaries, indeed, the surgeon himself resides in part of the building, and acts as apothecary at the same time. Mr. P. very properly does not approve of this arrangement, on the ground that no able or ambitious medical man would accept of the appointment if he was obliged to reside within the hospital, and was debarred, at the same time, from engaging in private practice. But, while he deprecates such an arrangement, he very justly condemns the appointment of one medical officer only to any infirmary, however small, as at once most unfair to the other professional men living in the neighbourhood, and most injurious, in many respects to the patients admitted. Mr. P. might extend his reprobation to a multitude of other medical institutions, as well as to his own Irish county infirmaries. Some of the London hospitals are far from being efficiently conducted; and we believe that one of the main causes of this inefficiency, is the circumstance of the medical officers being too few in proportion to the multitude of in-door, as well as of out-door patients. Infinite good would result from the application of Adam Smith's principle of subdivision of labour, to some of the metropolitan hospitals. The suffering poor, as well as the body of the profession, would be greatly benefited by the change. Of course there must be a limit to the numbers of the medical officers of hospitals. Yet, on every account there should be as many as there can be consistently with the proper performance of duties adequately defined.

In addition to the regular infirmaries of each county in Ireland, there are numerous fever hospitals and general dispensaries, all more or less supported by public funds, and not dependent solely, as is the case throughout England and Scotland, on voluntary contributions.

Perhaps no fact can more loudly proclaim the unhappy state of society in our sister country, than that almost all her charities, for the relief of the poor sick, are to a certain degree compulsory. We do not mean by this to condemn, but only to lament the system. It is no doubt necessary, considering the manifold evils which afflict the country—the absence of poor laws, the absenteeism of the wealthy landlords and proprietors, the wretched fare and miserable shelter of the peasantry and working classes, and the consequent appalling prevalence of fevers and other endemic diseases. Mr.

Phelan estimates the annual amount of fever cases in Ireland to be not less than 108,000, or one in seventy-two of the whole population. By various recent Acts of Parliament, the Grand Juries are authorised "to present to fever hospitals, in any county, city, or town, any sum not exceeding double the amount raised by donation or subscription, and actually received by the treasurer; and, to dispensaries, any sums equal in amount to those sworn to as having been received by the treasurers of these institutions."

Mr. P. very feelingly adverts to the distressing insufficiency of fever hospitals (about sixty-eight in number) to afford adequate relief to the annually recurring wide-spread mischief. The number of dispensaries, receiving public support from county presentments, &c. exceeds 400. The salaries of the medical officers attached to these institutions vary, from 50*l.* to 120*l.* per annum; but, unfortunately and unfairly, the amount of remuneration is by no means, in all cases, proportionate to the amount of labour and fatigue incurred. Some of the surgeons are not resident in their districts, being five and six miles distant from them, and visiting them only twice or thrice a week; and we are assured by Mr. Phelan, that the most unworthy feelings of favouritism, political and religious partizanship, &c. are too often permitted to influence the governors of these charities, in their selection of the medical officers. We must refer our readers to his work for instances (and some of them are, indeed, most flagrant) in point. Like all other institutions, dispensaries, and, it would seem, the Irish ones in particular, are subject to shameful abuses; for what was intended to be a refuge only to the helpless and indigent, is too often used by those who are quite able to pay for professional assistance as a means of obtaining professional relief, without the shame of begging for it. Perhaps medical men have partly themselves to blame; they are always too ready to proffer their advice, and to devote their time and exertions, without an adequate remuneration.

The late exposures of the dirty trafficking of some country doctors, to obtain the parochial practice, under the Poor-Law-amendment Bill, at the dignified rate of half-a-crown a case, are melancholy comments on the state of the medical profession in this country.

To return to Mr. Phelan, we have the sincerest pleasure in strongly recommending his work to the attentive notice of the Irish public. He has shewn himself a most zealous and disinterested philanthropist; and we trust that his advice and co-operation will be called into requisition, by those who truly wish to mitigate the distresses of his country.

A Further Inquiry concerning Constitutional Irritation, and the Pathology of the Nervous System. By *Benjamin Travers*, F.R.S. &c.

[Concluded from the last Number.]

Our readers will remember, or, if they do not remember, they will find, on referring to the last Number of this Journal, that the work of Mr. Travers

is divided into two parts. The first is more essentially devoted to the elucidation of our author's notions on the nature of irritation; while the second treats especially of the pathology of the nervous system.

The first part was analysed completely in our last Number. The second part is divided into five chapters, and of these we noticed the two first. The remaining three will, therefore, form the subject of the present article, which will terminate the consideration of the work.

The chapters in question are devoted to the investigation of the following points. The third chapter is on nervous affections, consequent upon lesion or alteration of texture of the nervous organ—the fourth chapter is on the operation and effects of poisons on the nervous system—and the fifth is a summary, with conclusions, pathological and practical.

On Nervous Affections, consequent upon Lesion or Alteration of Texture of the Nervous Organ.

It is a fault, almost inseparable, perhaps, from profundity of views, that not only their precise signification, but the order, also, in which they are arranged, are difficult of appreciation by ordinary minds. Yet simplicity is no mean attribute of science, and clearness of expression is as requisite to him who aspires to instruct, as depth of ideas and soundness of reflection. Certainly our author does not possess the art, the happy art, of unfolding, in a plain and intelligible manner, his conceptions and conclusions. Long periods and involved parentheses perplex the reader, and the rugged page is travelled over with uncertain and with painful effort. We regret this, because, by diminishing the number of those who comprehend, it necessarily, also, diminishes the number of those who respect Mr. Travers' opinions.

The object of the present chapter is obviously to connect the organic lesions of the nervous system with the consequent alterations of its functions, or in other words, with the symptoms that those lesions manifest. This is an operation of analysis. The facts should first be collected—those naturally related should be classified—and these larger masses resolved by analytical deduction into their essential elements. Yet this obvious method is, unfortunately, not pursued, and we wander through the chapter, uncertain where each turn of the seeming maze may lead.

Mr. Travers commences, with justice, by observing that great obscurity hangs over the pathology of the nervous system, and that this obscurity is dependent, in a great degree, on the manner in which that system is mixed up with the different organs and tissues of the body. Let us put this in a clear light by a simple illustration. Angular motion is the function of the knee-joint. If such angular motion is impossible, we know that some structural change in the parts concerned in the production of that motion has occurred—we know that this must of necessity be so. But the functions of the nervous system not being so simple, alterations of those functions do not necessarily prove any special alteration of its structure. The function of the median nerve is to convey sense and motion to the palm of the hand. But, if sense and motion of that part are lost, that is not sufficient evidence of lesion of the nerve itself, because we find, from experience, that pressure

on the spinal marrow or brain, with which the nerve is connected, will produce the same effect, nay, that some passing irritation of the ganglionic nerves, with which the median is still more indirectly in relation, may temporarily occasion the phenomenon. Thus the functions of the nervous system being exceedingly complex, the alterations of those functions must depend on various causes, and the appreciation of those causes must be a matter of excessive difficulty.

Mr. Travers' view of the condition of our knowledge is not flattering. He observes:—

"The brain plays so large a part in the diseases of other structures, that the symptoms of its proper diseases is difficult of recognition; and it is a more frequent problem, whether any organic change exists, or the disease is functional only, in the brain than in any other viscus. A principal source of the variety and obscurity of its pathological phenomena is doubtless the peculiarity of its circulation, which, notwithstanding the admirable provision of the venous sinuses, renders the balance more delicate and susceptible, and the effect of its disturbance of more importance than in any other organ, if we except the heart. In truth, there are instances of daily occurrence, in which the most attentive and sagacious observers are unable to decide whether the disease or injury is organic; and if so, what it is must be altogether conjectural. It may be very gratifying to the pride of science to suppose, that the presence or absence of this or that symptom has instructed us beyond all doubt as to what the mischief is or is not: but Nature is not so uniform and tractable as to be thus easily read—and the truth is, that all we can do in a large proportion of cases, is to wait upon the indications and developments that time affords, having carefully removed all obvious impediments in the way." 340.

He relates three cases in which the symptoms of apoplexy were presented; yet no alteration of the brain could be detected on examination after death. The first case is unsatisfactory, but the two succeeding are remarkable.

Case. One night in January, a lad was heard to fall from the mast-head of a vessel in the river, and was found lying upon the deck, with his head under a cask, perfectly insensible. He remained in that state, his pupils dilated, his fæces and urine passing involuntarily, breathing about eleven times in the minute, pulse 168. He was twice blooded, the pulse sinking each time under the operation; on the afternoon of the third day, he died without a struggle.

Not the least vestige of injury in the brain or spinal chord was discovered on inspection. The viscera of the thorax and abdomen were more turgid with blood than natural, but also perfectly sound.

Such a case as this must be deemed extremely rare—so rare, that few surgeons could have met its parallel. The patient had the symptoms of concussion, rather than compression. Could the bleeding in that state have had any thing to do with the result? If so, the absence of appreciable alterations would be intelligible.

The other case was that of a prize-fighter, who was taken off the ground insensible, and apparently apoplectic. He died in eight hours. No lesion of the brain was discoverable. We agree with Mr. Travers in his statement, that there are no cerebral symptoms, be they ever so severe, that have not been observed in cases that have finally done well. But we must in fairness

state our belief that these are the exceptions, not the rule, and that our general state of information with reference to the connexion of symptoms and lesions of the brain, is far from being so disheartening as our author's remarks might lead the inexperienced practitioner to infer.

Mr. Travers enumerates the various organic lesions seen in the brain and in its membranes. The catalogue need not detain us. Nor need a similar catalogue of the alterations of the spinal chord, and of its membranes.

The following would appear to be the inferences drawn by our author from the pathological data in question:—

"Now if there be no detectible difference between the convulsion of the epileptic, and that produced by a spiculum of bone irritating the dura mater, between the coma of an apoplectic, and that consequent upon compression from fracture or extravasation: if a large proportion of cases of injury of the head recover from a degree of suspension or disturbance threatening the worst result, when the surgeon's experience and discretion restrain him from officious interference, it is evident that functional disturbance, separately considered, is not a criterion by which to judge either of the presence or nature of organic mischief. Much of it may really be indicative of a power of reaction, promising in such circumstances, as the natural consequence and expression of irritation of an organ sufficiently retaining its integrity to admit of recovery, which mechanical injury of any amount would have prevented. Continued insensibility furnishes the worst prognosis, and next to that, those temporary and partial illuminations which fade almost as soon as they appear. If the signs of commotion subside, we may infer that lesion is seldom if ever present. The recovery of mind, however gradual, if it be but progressive, is a most auspicious sign. On the other hand, the increasing failure of the mind, and the giving way of the organic and vital functions, as e. g. the loss of power of the alimentary canal; the frequent pauses and increasing labour of respiration; the small running indistinct pulse, and the oozing of the exhalant capillaries, are the fatal prognostics.

I should say, therefore, that organic change is distinguished by the assemblage and combination of the symptoms, by their permanency or frequent recurrence, and in place of the signs of restorative power, by the progressive failure, whether rapid or gradual, of the system of nutrition, and consequent increasing embarrassment of the vital functions, as the circulation and changes of the blood, the secretions, temperature, &c." 346.

We must confess that we do not see the force of the preceding reasoning Mr. Travers argues thus:—An apoplectic patient has coma, and a patient labouring under compression from fracture or extravasation, has coma too; therefore, functional disturbance of the brain, separately considered, is not a criterion of the presence or nature of organic mischief. The only way of testing these general laws, is trying their truth in a particular case. One function of the brain is the regulation of the motion of the voluntary muscles. A patient suddenly loses the power of motion on one side of his body. From experience we pronounce that some pressure is exerted on the opposite side of the brain, and ninety-nine times out of the hundred we are right. Now in this case, disordered function of the brain is clearly an indication of the presence of organic mischief. The axiom will not bear much handling. The greater part of what we know during life of the existence of organic lesions in internal organs, is through the medium of disordered functions. Whether any one disordered function is alone capable of furnishing the means of accurate diagnosis, must depend on circumstances. Of course, it is the combination of symptoms that in general enables us to detect the

nature of disease; but in the instance we have mentioned, hemiplegia, that one functional disorder pointed out not only the existence, but the site too of the lesion.

Coma with stertor, we should say, is another symptom that points out pretty clearly pressure of some sort on the brain. It may perhaps be objected to this assertion, that patients die with this symptom, and yet no extravasation of blood nor serous effusion can be found. But reasoning might suggest to us, that congestion of the venous system of the brain would occasion pressure just as much as extravasation; and what is now known by the term of "simple sanguineous apoplexy," appears to be pressure of this description. We make these observations to shew, that general deductions in medicine require to be taken cum grano salis.

Mr. Travers proceeds to state, that organic lesion of the brain is never perfectly recovered from; some remnant of alteration of function always stays behind. "It is not," he says, "the actual amount of the injury, and its indirect interference with the functions of the brain, that occasions or maintains this state, but the effect of a shock which has so powerfully and permanently impressed the organ, as entirely to have modified its susceptibilities and habits of action, and 'turned the walking-stick into a crutch."

The idealists and the materialists have ever been opposed in medicine. We do not use the term materialist in the moral sense in which it is frequently employed, but simply as expressing one who looks for the causes of symptoms in material alterations of the corporeal structure, and is averse to admit the operation of agencies, the nature of which is founded on presumption. A materialist, for example, would take exception to Mr. Travers's hypothesis respecting the effects of what he calls a shock. He would cunningly ask what a shock is? A man falls with his head upon the floor, and the brain receives a shock; that shock, arising from a physical concussion and collision, has surely something material about it. We observe this:—that if the shock has a certain quantum of intensity, the patient suffers for a certain time, and then recovers;—if the injury is more severe, some tangible physical alteration in the brain, its membranes, or the cranium, is produced, and particular and more permanent symptoms ensue. The nature of the mode in which the shock is obtained, and the decisive symptoms that follow, render it probable, to say the least, that the shock itself is a minor degree of alteration of the finer structure of the brain. If this be true, and the arguments are greatly in its favour, our author's position would simply imply, that a slight physical alteration occasions effects that are permanent; while a more apparent, and necessarily more severe alteration, does *not* occasion permanent effects. In the following sentiment we agree with our ingenious author —

"Structural changes in the nervous system, which do not directly affect life, derive their symptoms from the nature and degree of their interference with the proper functions of that system, and with those of the parts which it supplies; in one case spasm, in another paralysis, either of sensation or motion; in a third, neuralgia is set up; and these affections may be variously combined, of which either the cerebral, the cerebro-spinal, or the sympathetic sytem may be the seat."

Mr. Travers thinks that the alterations dependent on inflammatory action

in nerves, result from the vessels of the membrane. No doubt, this is to the nervous substance what the periosteum is to the bone.

"Vascularity, thickening and induration, softening, deposit of lymph between the fibres, or between the sheath and the nerve, so as to separate or to displace the fibres centrally or laterally, severally or in one or more packets; tumors and cysts of various character, so situated, the neurilemma forming the investment; the fibres terminating abruptly in a tumor above and below; the fibres passing direct through the centre of a solid tumor without displacement or separation, and in both cases the neurilemma continuous and enclosing the tumor; the ganglion or nervous knot, in its varieties of size and consistence, ulceration from pressure, or wound, or contiguous inflammation, and the absorption of the medulla (wasting) comprehend all the diseased appearances with which I am acquainted.

The tumors above-named are homogeneous, firm, or pulpy; or cavities of abscesses, or cysts of solid contents in a state of disorganization. In the Hunterian collection is one specimen of a firm tumor embracing a nerve, and throwing off fibres on either side at right angles to the nerve. It presents an exact analogy to the osseous tumor which is formed in the cellular tissue connecting the periosteum with the bone, and I should think has a similar origin in the sub-cellular tissue of the neurilem."

Mr. Travers, after remarking that in a large proportion of cases of neuralgia we can detect no organic alterations as a cause, observes that, in the most severe and enduring cause, we do find either a change in the brain, or in the nerve at its origin or in its course, or an external irritant acting upon either.

Mr. Travers refers to sundry cases. Thus, tic douloureux of the branches of the fifth pair of nerves, and impairment or loss of power of the retina, have been induced by diseased teeth—cerebral disturbance is well known to be occasioned in children by dentition—Mr. T. has seen complete and permanent amaurosis from an abscess between the pterygoid muscles.—In Dr. Pemberton's case, tic douloureux in the left infra-orbital nerve was occasioned by a bony deposit in the falciform process of the dura mater, a little distance from the crista galli.—In a case communicated to Mr. Travers by Sir A. Cooper, and fully published in a late number of this Journal by Dr. James Johnson, epileptic fits were occasioned by a similar deposit in the falx, attended with thickening of the contiguous dura mater and arachnoid, and gelatinous-like alteration of the subjacent brain. The following case was communicated by Sir Benjamin Brodie.

Case. "Mr. ———, had laboured for many years under severe pain of the face, which had been regarded as the effect of tic douloureux. He had also suffered from epileptic fits. Latterly the former symptom had subsided, while the fits became more frequent and more severe. After one of these attacks he expired with symptoms of apoplexy. There had been, for some time previous to his death, ptosis of the left upper eye-lid, which made me suspect that the brain was affected at the part from which the third pair of nerves derives its origin.

Examination.—The internal surface of the cranium exhibited marks of increased vascularity. The impressions of the vessels were larger and more numerous than usual, and the foramina of the vessels more distinct—in some places also there were reddish discolorations, and the projections of the basis cranii were unusually prominent. The membranes of the brain were preternaturally

vascular. The vessels of the dura mater large and numerous, the tunica arachnoides thickened, and at the upper and back part of the left hemisphere of the cerebrum, an adhesion had been formed between the tunica arachnoides and the dura mater of about an inch or 1 1-4 inch in diameter. The veins of the pia mater were unusually turgid.

The cut surfaces of the cerebrum exhibited numerous bloody specks indicating increased vascularity, and also a red mottled appearance in many places. The texture of the brain was remarkably soft, especially in the crura cerebri, fornix, and adjacent parts. The fibrous appearance of the brain was particularly distinct. The nerves of the fifth pair in the cavernous sinuses were carefully examined and seemed free from disease. No excess of fluid in the ventricles. The membranes of the spinal chord exhibited marks of increased vascularity, but the chord had the usual appearance.

The viscera of the thorax and abdomen were free from disease, except a partial adhesion of the pleura and a small brown interstitial deposit in the liver." 356.

It is evident that we are not yet sufficiently stocked with facts of this description to enable us to generalize. Indeed what we at present know, amounts to little more than this—that in a few cases of epilepsy and neuralgia we have found lesions in the brain or spinal marrow—that these lesions have been various—but that, in general, they amounted to what would rather constitute a source of irritation than of serious disorganization. A spiculum of bone, for example, has been found upon the dura mater, or a little adhesion of that membrane with the arachnoid—or partial softening of the substance of the brain or spinal chord—or a small morbid growth in their interior. What we want, we repeat, is an addition to our stock of facts—generalization would be premature at present.

Mr. Travers relates an instance of concussion of the spinal marrow.

Case. On Aug. 4. a plumber, æt. 33, fell from a height of thirty feet. He alighted on his feet, but then fell backwards with great force, and his sacrum came in contact with a large stone. He was unable to rise, although he had some motion of the lower limbs. On admission into the hospital, no signs of fracture were discoverable. At 4 P.M., he had excessive pain in the loins and legs, with total loss of motion—great depression—skin cold—pulse slow. Warm brandy and water given. 6 P.M. Re-action somewhat violent, exquisite morbid sensibility of the legs and feet; when touched slightly, pain of the most acute and lancinating character is produced. Pulse 120, hard and wiry, skin hot, great pain of head; C. c. lumb. reg. ad. ʒxvj.

10 P.M. The cupping relieved him for a short time, but now the local and general symptoms are more severe than before: the slightest motion, even that caused by walking up to the bed-side, brings on the most agonizing pain of the whole of the lower extremities, particularly on the posterior surface, and upon the bed-clothes being touched, he exclaims most piteously: head-ach violent: v. s. ad. ʒxvj. Liq. opii sed. ♏xxx. Calomel gr. iij. 4tis horis. His water was drawn by the catheter.

5th, 6 A.M. Has had no sleep; pain not quite so violent, and confined more particular to the back of the thighs, calves of the legs, and top of the feet; head-ach; pulse 120, sharp. Aperient draught. 12 o'clock. Bladder and sphincter ani paralysed; pain the same. Evening. Complains of pain in the lumbar region; pain in the legs again increased to the most ex-

cruciating degree; (to use his own words, when any one walks by his bed, it is just as if a number of razors were cutting him down to the bone;) pain more severe in the left than in the right limb, which is colder to the touch; head-ach violent, skin hot, pulse irritable.

6th. Slept a little during the night, pain somewhat abated; countenance anxious, skin moist, pulse 112, full and soft. No aggravation of symptoms in the evening, as before; to increase the opiate to-night, and continue the calomel. On the 7th, the pain was diminished—the paralysis the same. In the evening he was able to move the toes a little. The pulse was 104, and soft—the mouth sore. Mercury omitted. From this time the improvement was not only progressive, but rapid. On the 8th of September he could walk with the assistance of crutches, and some weeks after leaving the hospital, he walked three miles with the assistance of a stick, his only inconvenience being a trembling of the legs, when fatigued.

This case is practically very instructive. The treatment was highly judicious. So soon as inflammatory symptoms came on, venesection, cupping, mercury, were the means resorted to. Such means are often necessary and sometimes highly useful after injuries of the spine—not only concussion, but even fractures of the vertebræ. The case too is physiologically interesting, exhibiting, as it does, the heightened sensibility of the parts supplied with nerves from the injured and subsequently inflamed portion of the spinal marrow.

A case is quoted from the practice of our author's colleague, Dr. Roots. It is this—

Case. A man was admitted in August, 1834, with total loss of motion, and partial loss of sensation of the lower extremities, and lived about a month. There was pain on pressure or percussion on one spot, viz. the 5th and 6th dorsal vertebræ, and on no other part of the spinal column. "This," says Dr. Roots, "I speak confidently, because I was astonished to find, at the post-mortem examination, most extensive caries of nearly the whole of the bodies of the vertebræ below the 5th, where the disease commenced. Just opposite the 5th and 6th dorsal vertebræ, the whole of the spinal cord was softened to the consistence of thick cream *to the extent of five-eighths of an inch*, but not exceeding that;—the membranes were not appreciably thickened. I addressed my pupils on more than one occasion on the subject of the absence of pain on percussion, where there was such extensive disease of the bones."

We do not conceive cases of this description to be extremely rare. We have ourselves witnessed more than one instance, where extensive caries of the spine was attended with little or no pain on pressure and percussion. We recollect an instance in St. George's Hospital, where great destruction of the dorsal vertebræ was not accompanied with any appreciable tenderness, even on a careful examination.

Mr. Travers refers to the opinions lately promulgated with reference to many of the local pains in hysterical females—that they are dependent on irritation of some portion of the spinal marrow. He seems to attach much credit to these fancies. We cannot agree with him when he observes:—The painful arm after bleeding has been attributed to the puncture of a cutaneous nerve by the lancet, but the conclusion is gratuitous, fascial or

venous inflammation, of which one or the other is present, being fully sufficient to explain the symptoms. We are not aware that any good surgeon does attribute the "painful arm" to puncture of a nerve *when* fascial or venous inflammation exists. It is when no other obvious cause does exist, that that cause is deemed to be puncture of the nerve. It is fascial inflammation, the term used unsuspiciously by Mr. Travers, that is understood most vaguely and erroneously. That fascial inflammation is usually nothing more nor less than inflammation of the cellular tissue above the fascia or below it.

Mr. Travers relates the particulars of two experiments, details some cases, and makes many observations on the consequences of injuries of nerves. For these we must refer our readers to the volume in which they are contained. The following case narrated by our author is, it is to be hoped, not common. It is that of a young female.

"Her own statement is, that a tumor following a blow from a fender upon the back of the hand, in 1828, led to her becoming a patient of Mr. Green, in St. Thomas's Hospital; that it was opened in several places without relief; that she was afterwards a patient of Mr. Vincent, in St. Bartholomew's Hospital, that three caustics were applied, and no relief obtained. She then again obtained admission at St. Thomas's, when Mr. Tyrrell amputated the hand two inches above the wrist. This was in November 1830; that the disease returning, a second amputation was performed by Mr. Langstaff, of Basinghall-street, three inches above the elbow, and that the diseased portions of the nerves were afterwards removed by that gentleman, by two incisions of the stump. Still unrelieved, she tried St. Bartholomew's a second time, as a patient of Mr. Earle, and from thence migrated eastward, and was the subject of another operation for excision of the nerve, performed by Mr. Luke of the London Hospital; that having other gentlemen's advice without benefit, and getting no ease night or day, she at length placed herself under Mr. Bransby Cooper, in Guy's, and had the stump removed at the shoulder-joint, in 1834, from which period she remained free from pain." 383.

We have heard or read of this case before, and our impression is, that the pain *has* returned since the date of our author's information. We say this is our impression. The truth is that operations are frequently gratuitous cruelty in these cases. The cause of the suffering is not in the part where it is felt—it is only *referred* to that. Its removal is not therefore the removal of the cause, and after operations have been again and again performed—after the patient has been put to great pain and to some risk—after he or she, for the sufferer is usually a female, has been mutilated secundum artem, she remains unrelieved of her sufferings, a memento at once of the weakness and the powers of art.

As an example of the injurious effects of operating upon *painful* tumors, Mr. Travers relates the following case from the practice of Sir Benjamin Brodie.

Case. The lady, the subject of it, had aneurism by anastomosis on the forehead. Sir B. Brodie tied the base of the aneurismal tumor with the effect of removing the disease for six years. Then a pulsating tumor again made its appearance, and was exquisitely painful. Sir B. Brodie tied its base again. This was done on the 9th of March. On the 11th, a little diffuse inflammation of the forehead supervened. On the 14th this was subsiding; but she complained of a little pain in the right forearm, and she

was delirious, next day, the forearm was much swollen from the elbow to the wrist. The swollen part was tender, but there was little redness of the skin. There was neither inflammation nor swelling of the neck or arm, so that it was evident that there had been no extension of the inflammation to the extremity from the head and face. At 11, p.m. the whole forearm was in a gangrenous condition. Next day she died. No inspection of the body was permitted.

Now we doubt whether Mr. Travers can fairly cite this as an instance of the peculiar dangers attendant upon operations on painful tumors. Such consequences occasionally follow *any* operations, or *any* accidents. A man, for example, was admitted into St. George's Hospital with a simple scalp wound. Diffuse inflammation of the scalp occurred, and two or three incisions were made in it. He seemed to be doing well, when suddenly the right lower extremity fell into the state that was noticed in the upper limb in the last case, it mortified entirely, and the patient died. Sir B. Brodie operated on a woman in St. George's Hospital for scirrhus of the breast. So far from its being a painful tumor it was a remarkably indolent one. A few days after the operation, which had been succeeded by some suppuration in the immediate vicinity of the wound, the left lower extremity became gangrenous and the patient died.

The truth is, that these cases are analogous to the instances of secondary inflammation in distant parts after injuries and operations. From slight erythema on the skin, to extensive suppurations and to gangrene, we pass through all the phases of inflammatory action in cases of this description. It is not merely because the tumor operated on may be a painful one, that we meet with these sequelæ; their real cause may be sought in deeper and more obscure pathological conditions of the part or of the system.

Mr. Travers is disposed to admit too easily the direct interference of the nervous system. He observes for example:—

"The following case seems to shew the direct tendency of injuries of nerves to produce that species of inflammation termed erysipelas, which if not especially under the nervous influence, is at least remarkable for its nearest affinities.

Case. In 1833 a man struck his leg violently against the points of a pair of scissors used for cutting tin. The wound was on the posterior and outer side of the leg, in its upper third, and passed round the fibula to the interosseous ligament in front. In a few days he was attacked with erysipelas of the limb and extensive sloughing of the cellular membrane in the vicinity of the wound, under which, in spite of treatment, he quickly sunk. On examination, the anterior tibial nerve was found three parts divided. There had not been the slightest symptom of spasmodic action or other nervous derangement. The preparation is preserved in the museum of St. Thomas's Hospital." 371.

Now such an injury, a punctured wound, is constantly found to give rise to diffuse inflammation and to erysipelas, quite independently of any lesion of a nerve. It is not, therefore, possible to single out that lesion when it does occur, and attribute in an especial manner to it, what we constantly observe without it.

Tumors of nerves may arise from neurilemmatous inflammation, occasioning deposition of lymph—or they may have a constitutional cause, and affect, or actually assume the true malignant character—or they may occur under a common form, which surgeons often see, and our author thus describes.

"Cases of small and isolated tumors of a gristly firmness, varying in size from a grain of wheat to a large pea, exquisitely painful, and requiring extirpation from that cause, are met with in the course of subcutaneous nerves. They are generally traceable to a blow or sprain. I have seen them in the breast, the thigh, the spermatic cord, the fingers, the instep, and various parts of the body. It is not always easy to determine if the tumor is in the nerve, or superjacent and adherent to it. Both these cases occur, and in the latter, I believe the removal of a portion of the nerve would be a safer practice than the simple extirpation of the adherent tumor. The latter proceeding, at least, I have twice found ineffectual in removing the pain, which is the gravamen of the disease.

The most frequent cause, however, of the ganglionic tumor is amputation.

"It appears, then, that the ganglionic tumor occurs without wound, as 1st, in clusters upon the fibrillæ of a nerve; 2d, single or isolated upon a nerve subcutaneous or deep-seated, moveable, or adherent to contiguous parts; 3rd, after section and re-section, as in amputation, in an irregular-shaped knot or knots, all the nerves of the limb, or on the same side of the limb, running into it or them, both trunks and branches, and so bound together at their termination.

In addition to this statement, I may add, that tumors of various structures lying upon and adherent to nerves, sometimes occasioning the neurilemmatous inflammation, and are equally productive of the peculiar pain which constitutes the disease, and that it is indispensable in such cases to remove a portion of the sound nerve above and below the diseased portion, to give the patient a chance of relief. 384.

The fifth chapter is devoted to the investigation of the operation of poisons on the nervous system. We do not think it necessary to advert to it more particularly. The sixth and last chapter is termed a summary, and contains "conclusions, pathological and practical."

The gist of the summary is a defence, and in many parts an eloquent defence, of our author's opinions on the agency and influence of the nervous system in the production of disease. He observes, and probably he is not far wrong, that functional diseases belong to the nervous system, and organic diseases to the vascular, either being capable of setting up the other.

"I admit," he says, "at its proper worth the force of the axiom 'Nil quod non demonstrandum,' and am alive to the prudent and prevailing jealousy of speculation as a substitute for reality, in the physical sciences inadmissible and in all unsatisfactory; but the animal movements are not, and never can be, subjected to mathematical adjustment, and unless we conclude that the actual operations of the nervous system are mere fictions, dreams like those which emanate from it, because we cannot unfold them, the argument drawn from their perversions and obliquities rests on the same foundation and is equally valid and tenable." 430.

We admit that the animal movements are not, and never can be, subjected to mathematical adjustment; but we do not think that, on that account, medicine should not be brought as near to an exact science as possible. We cannot shut our eyes to the obvious fact, that the great modern improvements, those mighty improvements productive of so much immediate benefit to suffering humanity, of so much more probable ultimate utility, we cannot, we say, shut our eyes to the obvious fact, that they have been achieved by the study of organic changes. There are many, no doubt, who are ultra-montane in their views, and hold morbid anatomy at a much higher price than it is worth. Yet we do not think we have yet obtained all that is to be obtained on the side of exactness, and we are sure that the way to effect the greatest possible amount of good, and to give to medicine all of demonstration that it can have, is to look with a very jealous eye on every thing approaching to hypothesis.

It would seem to be the opinion of some that the laws of functions and of functional alterations are hardly susceptible of strict analysis, and should not be tried by the test of induction. Such are not our sentiments. Induction may be well applied to the investigation of functional disorders. The results will not always be conclusive—again and again we shall be reminded how little we know and can ever know—but still what we *do* know will be satisfactory, and what we do *not* know will be manifested. The consciousness of ignorance is knowledge, and very valuable knowledge too, and that consciousness is frequently diminished, and sometimes altogether destroyed, by too ready an admission of reasoning avowedly not grounded upon demonstration.

Let us not be misconceived. We do not deny the agency, the influential agency of the nervous system. On former occasions we have raised our voices loudly against the mad attempt to smother a belief in it. But we really profess ourselves jealous of receiving very easily explanations founded on operations of that system, which are dubious in their nature and with difficulty understood. Mr. Travers then and ourselves are not the representatives of opposing principles—but the difference between us is simply one of plus and minus. Nay we think that on many points Mr. Travers is probably right, where a rigid criticism might plausibly expose the logical fallacy of reasonings necessarily built upon presumption. We think too that Mr. Travers is entitled to much credit, for boldly advocating principles which are not popular at present, but which he honestly believes should be opposed to the prevalent mania for ontologism.

In the following sentiments we most cordially coincide with Mr. Travers:—

"The history of any constitutional disease taken by itself would be of little use as a guide to the treatment of a patient, we must know the 'entourage,' if I may so express it, how the system at large has been influenced by its previous state and ordinary habits, the natural temperament and the physical form, how far they have aided or kept back the development and are prognostic of its course, together with many other circumstances pertaining to the individual and the malady. If we want the character of a man's mind, we refer to his education and habits, and in the same way we must refer to the constitution if we would know its ailments. Now one of the chief points of such inquiry in a case of disease, is to ascertain whether the nervous or the vascular system predominates; and as regards the patient, whether he is an inflammatory or an irritable subject; than which no two constitutional characters are more strongly in contrast, or respectively more important in their influence. Nor are such inquiries of less weight in surgical maladies, even in casualties; they point as strongly to the nature of the constitutional disorder to be anticipated, as they explain that which has actually occurred, to inflammatory or to typhoid fever, to cerebral or hepatic derangement, to erysipelas or gangrenous inflammation, or tetanus, and even in the sequel, to scrofulous or carcinomatous action." 431.

We now take our leave of the able author. If we have differed from him with freedom, we have done so with respect. As a gentleman, we must esteem, as a man of ability we must admire him—if we have combated opinions which seemed to us to be of dubious accuracy, we have not lost sight of the possibility that the critic might be wrong, and the doctrine criticised right—and, if we have preferred our own conviction to a mere deference to the sentiments of Mr. Travers, we may say with Brutus—

It was not that we loved Cæsar less, but that we loved Rome more.

PRACTICAL OBSERVATIONS ON THE NATURE AND TREATMENT OF NERVOUS DISEASES; WITH REMARKS ON THE EFFICACY OF STRYCHNINE IN THE MORE OBSTINATE CASES. By *Geo. Russell Mart*, M. R. C. S. Octavo, pp. 185. Churchill, London, Aug. 1835.

Mr. MART, who is a practical and observant surgeon of this metropolis, informs us that the object of the work is twofold—first, to detail the different diagnostic symptoms which mark the rise and progress of palsy, amaurotic blindness, nervous indigestion, tic douloureux, and neuralgia—and, secondly, to demonstrate the complicated nature of these diseases, shewing that they are frequently dependent on the state of the blood, and on general constitutional disorder. Hence the necessity of general remedies, as well as local. The chief portion of new matter, however, in this work, consists of numerous cases of chronic, and usually incurable diseases, treated by strychnine—a remedy not yet in extensive employment, nor sufficiently ascertained as to its remedial agency. The volume contains four chapters—the first of which is on—

PARALYTIC DISEASES.

After some general remarks on the ignorance of the ancients, and the discoveries of the moderns respecting the pathology of palsy, Mr. M. informs us that he has been in the habit of prescribing strychnine for some years, in the chronic forms of the malady in question, and assures us that it is a remedy of great power and utility. We shall advert to a few of the cases in each chapter, abbreviating them in most instances.

Case 1. Mr. Wyatt, King Street, Soho, had paralysis of the right side including the muscles of the face and tongue. He had rather a fatuous look. The paralytic affection had commenced three years previously, and various remedies had been tried in vain. One-sixteenth of a grain of strychnine was first prescribed, thrice a-day. After two days, the dose was increased to an eighth—and afterwards gradually augmented to a third of a grain. In ten days, some slight twitchings about the face were remarked, and they soon extended to the arm and leg. They increased even to annoyance. At the end of three weeks, he had more power in his arm, and could stand on his legs. By the fifth week he could walk, with assistance, about the apartment. The strychnine was continued, in doses of half a grain in the 24 hours. The expression of the countenance altered, from silliness to archness, and, at the expiration of seven weeks, he walked without assistance. In four months, he was able to resume his usual avocations. This was in the end of 1829 and beginning of 1830. In July, 1832, Mr. Wyatt was seized with apoplexy, from which he narrowly escaped. It was followed by paralysis of the right side. The use of the limb, however, returned in four months, so that he was able to walk to town—a distance of three miles from the Edgeware Road, where he now resides. He is apparently in good health, and can take considerable exercise. He used the strychnine for the secondary paralysis.

Case 2. The patient was Thomas Fryer, placed under Mr. Mart's care by Viscount Gage. His age was 34, of full temperament, muscular and plethoric. For four years, he had little use of his left leg, and still less of the corresponding arm. His sight was materially affected. The case was aggravated by epileptic seizures, occurring at intervals of ten, fourteen, or 21 days. After some aperient medicine, the strychnine, in doses of an eighth of a grain twice a-day, was administered—the quantity being gradually increased to a quarter of a grain ter die, when shaking fits were complained of in the paralyzed parts. After two months of this treatment, an attack of epilepsy interrupted the medicine for a few days, when it was resumed, and continued for several months (with epileptic interruptions).

"The result of this treatment was, that in two months he could walk a distance of half a mile, and the palsied arm acquired strength. After four months he was able to employ himself in French polishing, and in manufacturing light pieces of cabinet-work.

The fits of epilepsy returned at longer intervals of time, and abated much in severity; ultimately they dwindled to peculiar and rather painful sensations in the leg, such as usually are denominated premonitory symptoms of epilepsy.

Fryer now walks to various parts of the town, carries home his work, and when fully employed can maintain his family in a comfortable manner." 16.

Several other cases of hemiplegia are detailed by Mr. Mart; but the above are sufficient specimens.

PARAPLEGIA.

The cause of this severe malady is sometimes in the head, though more frequently in the spinal marrow. The following extract will shew that Mr. Mart is an attentive observer of morbid phenomena.

"The symptoms of this form of Palsy are as variable as the causes. With some, the disease commences with slight occasional pains, referable to a part of the hip, thigh or leg, and frequently behind the protuberance at the head of the thigh-bone. Pain is not always present; fatigue frequently induces it, and rest relieves. Weakness and pain now manifest themselves in the muscles at the lower part of the back, or in various parts of the legs. The sensation of a cord tied round the calf of the leg is a common symptom. At times the patient cannot walk, or even stand erect, without a paroxysm of pain following, which compels him to assume a recumbent position, as the only mode of obtaining partial relief. Locomotion is performed with difficulty; the legs threaten to give way, and bend under the patient at every step.

An additional support is now required in moving about, as crutches, or a stick. As the malady increases, an occasional involuntary discharge of urine takes place, and incontinence of the lower bowels ensues. Sometimes, on the contrary, the greatest difficulty prevails in invoking the natural action of the bowels, and various domestic instruments are had recourse to, with very little avail.

After an interval of months or years, the legs become incapable of carrying the body beyond a few yards, and sometimes the erect position cannot be maintained while sitting, the power of moving the legs may remain, and sensation be unaffected. Generally a wasting of the paralysed limb is apparent, while sensation may be morbidly increased.

On sudden and rapid changes of weather, the patient is attacked with painful *neuralgic* twitches, resembling those of Tic Douloureux.

There is a peculiarity in the walk of these patients. They first press on the

heels, and the toes waver, turning inwards or outwards. They straddle or bow their legs to obtain footing. Patients live in this state an indefinite period." 34.

Case 3. Thomas Linton had been two years in the Racoon Hospital-ship (Portsmouth Harbour), before Mr. Mart's appointment to that ship. He was tall, thin, and sallow—very intelligent. He had not quitted his bed for 20 months, except when carried on deck for fresh air. The cause of the paraplegia was a blow on the loins by a fragment of stone. The symptoms were slight at the time; but afterwards a sense of numbness extended along the thigh, with a feeling as if strings were tied round the legs. These symptoms increased, and, in three weeks, he was deprived of power in the legs, and unable to stand. Various means had been tried, but without any good effect.

"The treatment was commenced by administering some blue-pill, and doses of purgative medicines; the state of the secretions required previous treatment. Afterwards, one-eighth of a grain of strychnine was ordered in the form of a pill twice a-day, and a dose of a mixture containing *diluted sulphuric acid* taken at the same time. On the second day the pill was repeated three times, and the strychnine was gradually increased to a grain in twenty-four hours. When the treatment had been continued a month, no amendment occurred; but about this time, a blister was applied over the part where the blow was received. On removal of the skin, one-quarter of a grain of strychnine was applied twice a day. The blister was dressed daily in this manner till it healed, when another was applied in the vicinity, which was dressed with half a grain of strychnine, sprinkled over the denuded surface twice a-day, and also administered internally in pills, containing a quarter of a grain, four times a-day. Six weeks from the commencement, the patient began to improve; convulsive jerks were felt in the legs, and a sense of pricking and other odd sensations were experienced; the toes would move involuntarily. An erect posture had been attained several days; the patient sat in a chair, and moved the legs in every direction. He continued to improve in various degrees; but the amendment was always more rapid after blistering. This treatment was continued four months, when he was so far recovered as to be discharged from the Hospital Ship, and had light work assigned him. Finally the cure became perfect, and he performed the duties of an able-bodied man." 37.

Case 4. This was a medical gentleman, Mr. Martindale, who became paraplegiac on his voyage home from India. The strychnine was proposed, but he was persuaded to try the air of Wales for a few months. This made little or no improvement in the paralytic complaint, and, on his return to London, he complied with Mr. Mart's prescriptions. He began by taking an eighth of a grain of strychnine thrice a-day, gradually increasing the dose. In the course of two months, he walked without support; and his bowels, which had been very irregular, assumed their natural action.

Case 5. This case being short, we shall give it in the words of the author.

"In the year 1832, the daughter of an officer in the army, residing at 25, Arundel Street, came under treatment. This lady, in 1829, complained of a heavy, dull pain at the back of the neck, sometimes approaching to the front. When the pain was momentarily increased, she was obliged to grasp her neck with both hands. Difficulty of swallowing at times was felt, when pain extended to the muscles and parts of the chest, and about the shoulders. These were ascribed to rheumatism. The tips of the fingers felt benumbed, and she expe-

rienced considerable annoyance from the state of her bowels, and the irregularity of the monthly indispositions. The toes were affected with numbness, and the joints of the lower extremities were stiff and painful. Subsequently, the loss of motion increased, and the power of walking and standing was destroyed. When the treatment commenced, the legs were emaciated, and the muscles soft and flabby. The expulsion of fæces and urine was attended with difficulty. Large patches of inflammation, threatening to produce sloughing ulcers, were apparent on the upper and posterior parts of the thighs. For three months, strychnine pills were administered. The constitution being delicate and much shattered, only one-twelfth part of a grain was first ordered to be given night and morning, and afterwards three-times a-day. This was increased to one-eighth of a grain, the greatest dose administered in this case. Five small blisters were applied to the loins during the treatment, and one quarter of a grain of strychnine used twice a-day, while the blistered surface was in a condition for its absorption. At the end of the treatment the patient could stand, and, with assistance, shuffle the feet along the floor. Quinine pills were now ordered, and continued for a month.

The improvement was slow; twelve months elapsed before she could walk abroad; the legs had recovered their former plumpness, and the constitution much of its original vigour." 41.

Mr. Mart next adverts to the paralysis agitans, or shaking palsy—a peculiar disease, and which we have found, contrary to Mr. Mart's experience, to be a most obstinate, and generally incurable disease. We were, therefore, a little surprised to read the following paragraph, at page 44 of the work. "This disease does not usually produce derangement of the general health; and patients sometimes live to an old age, or die of other complaints." "The strychnine is remarkably efficacious in nearly all cases of 'SHAKING *palsy*.' We shall extract the only case that is given by Mr. Mart, "from *numerous* cases in the author's note-book"—a statement that also surprises us, since a long, and not very limited, experience has not furnished us with more than half a dozen instances of unequivocal paralysis agitans. We have never seen recovery in any one case.

Case 6. "Miss C—k, aged 18, residing at a school in Woolwich, was observed, when about 14 years of age, to draw up her feet quickly and suddenly in walking; she complained of numbness in her fingers, and could not use a needle; the fingers and thumbs of both arms began to move involuntarily, attended with spasmodic twitches of the muscles; the legs, about the same time, were affected with similar agitations. Her gait was unsteady. She was able to project her legs, but in no other way could control them. The head was affected by spasmodic movements, being sometimes tossed disdainfully backwards, or on either side.

This young lady had the best advice, and, in the early stage of the disease, was properly treated. On the malady degenerating into a chronic type, her friends considered it was useless to make further attempts to procure relief, as no remedy appeared to be of service.

When first seen by the author, the limbs were agitated as she sat in a chair, and when desired to walk to a particular part of the room, it became a matter of doubt if an opposite direction was not about to be taken, or one to the right or left; in short, she proceeded in a zig-zag way. Her health was tolerably good; no deformity was present; her stature was of the middle height, but her person was rather thin. The treatment was continued eleven weeks, commencing the strychnine with one-twelfth of a grain, increased to one-eighth of a grain three times a-day in the form of a pill. At intervals blisters were applied, and the spine rubbed with strychnine, dissolved in spirit, after the prescription of M. Majendie.

The symptoms finally yielded to the efficacy of the remedy, and her constitution improved in strength. When her feelings are affected by circumstances not of an ordinary nature, the limbs tremble, and the fingers move, but these symptoms pass off on recovering herself." 46.

We think we may confidently affirm that the foregoing case was *not* one of shaking palsy, but of CHOREA. And this mistake will account for the numerous cases of the disease which Mr. Mart has entered in his note-book. The candid manner, however, in which Mr. M. has stated the symptoms, absolves him from all intention to deceive his brethren. If authors were thus to act, the science of medicine would not be blotted so often by "false facts" as it long has been!

Amaurosis.

In this disease, too often found incurable, "strychnine has been highly beneficial in the hands of the author."

"At the onset of this malady some constitutional symptoms generally are present, such as derangement of the digestive organs, torpidity of the liver, and pains about the front of the head: sometimes indeed symptoms referable to Palsy, come on at distant parts of the body: transient flushes of the face occur, and patients are assailed with fanciful sounds, as buzzing noises, and the dropping of water; or alarming sensations are created by the forcible pulsation of the internal vessels of the neck and head. Among the primary symptoms of impaired vision, are the appearances of insects, cobwebs, or a piece of gauze appended between the affected eyes, and the object viewed; these observations increase in magnitude, and become more opaque. Sometimes the failure of vision is only occasional, recurring at longer or shorter intervals.

Zones of bright light appear to surround objects, and flames of candles or lamps assume every position but the real one. Rays of light flit about the eyes, scintillations verge out in every direction, or yellow sparks pass across at every turn of the orbit, occasionally becoming vivid or forked like lightning." 53.

Five cases are detailed by Mr. Mart. We shall briefly notice some of them.

Case 7. Mr. W., a stockbroker, had suffered several years from defects of vision. "At first he became unable to read by candlelight, afterwards he had pain at the bottom of the orbit, while the external parts of the eyes were tender and irritable, and when pressed, however gently, pain was produced; he had a dull pain in the forehead, generally aggravated at night, and there were frequent involuntary movements of the eyelids. He saw best at noon-day in the sun, or in a room brilliantly illuminated. He transacted all business in which a pen was required as expeditiously as possible, for whenever the eyes were employed, especially while writing, uneasy sensations invariably occurred." When the treatment was commenced he wrote in large characters, and he could not recognize the features of a person at the distance of three yards. The pupils were generally dilated. Strychnine was given night and morning, in doses of a tenth of a grain. Small blisters were applied over the eye-brows, and dressed twice a-day with a quarter of a grain of strychnine. This treatment was continued seven weeks. The patient was very irritable, and would not continue the blisters. A spirituous

solution of the strychnine was therefore applied to the neighbourhood of the eyes for four weeks. In the course of a fortnight candlelight ceased to produce pain, and the power of vision was improved. He did not, however, completely recover.

Case 8. Fryer, (Case 2, already noticed) had amaurotic blindness of both eyes. "When in a room he could only distinguish the aperture through which the light entered. He knew no one by sight," nor could he distinguish a male from a female by their dress in the streets. This state of vision followed a severe attack of apoplexy occurring subsequently to the paralysis before described. He had epileptic fits every month. He was under treatment for eight months, and was twelve times blistered about the outer angle of the eyes and over the eye-brows. The restoration of vision was very gradual. Many weeks elapsed before the slightest improvement took place. When last examined he detected a fly creeping on the window. His vision was always deteriorated previous to an attack of epilepsy. These fits have now disappeared, and the sight continued to improve long after the treatment was left off.

Case 9. Mr. D. residing in the New Road, had been afflicted with amaurotic blindness many years. The deprivation was sudden, and both eyes were affected. "The patient can scarcely distinguish the outlines of a human form, and requires a strong light even to perceive a white object on a dark ground." He has difficulty in standing or walking at times. "During these attacks of nervous debility in the lower extremities, and whenever great atmospherical vicissitudes occurred, he was seized by neuralgic pains at various parts, frequently preventing sleep at night, and causing much disquietude through the day."

The principal seats of pain were the legs and arms. This patient had been seen and treated by some of the most eminent medical practitioners. The strychnine was employed for three months, internally and externally, together with blisters. The result was decided benefit—so that the patient could walk round the Regent's Park. It is curious that, one day during dinner, the sight became almost perfect; but soon deteriorated, and has since remained so. Two or three other cases are related; but we cannot afford space for their details here.

CHAP. II.—NERVOUS INDIGESTION.

This chapter is not susceptible of analysis, though it evinces considerable powers of observation in the author. We confess that it is the least satisfactory chapter in the work. The following passage will serve to explain this.

Nervous affections of the stomach, and of other parts of the system, are often subdued by a well-directed course of medicines; but sometimes they resist every mode of treatment, and it is in such instances that strychnine should be administered.

This remedy, however, will not always succeed in eradicating the malady. The difficulty in some instances of removing the causes of nervous disorders has

frequently prevented the strychnine from affording more than partial relief. When the causes were as active as at the commencement of the disease, no benefit has accrued." 101.

The third Chapter is on—

Tic Douloureux.

This is a disease of modern recognizance, though, probably, it has existed time immemorial. Fothergill, in 1766, gave the first description of it, and our continental neighbours, since that period, investigated its nature and causes with more zeal than success. Its etiology and pathology are indeed involved in *impenetrated*, if not *impenetrable* obscurity!

"The attention of the medical profession has lately been directed to the production of this disease by the growth of bony particles within the head, operating through the medium of the brain. Although these and similar causes are always present, yet the pain is generally of an intermittent character. The same obtains in other nervous diseases, as has been fully demonstrated in the results of dissections of persons whose brains were penetrated by points of bone growing from the internal surface of the bones of the head, but who during life had *periodical* head-aches, or epileptic seizures.

Upon a more extended view of the subject, of its origin, and its primary seat, the probability is, that the source of irritation is more frequently in a portion of the brain; sometimes in those portions from which the nerves of the face have their immediate origin,—and sometimes at the roots of the nerves themselves. That the seat of the disease is not often in the sentient extremities of the nerves which are distributed over those parts of the face where pain is experienced, may be clearly inferred by the failure of ordinary and external means of obtaining relief, even including the operation of dividing the nerves." 108.

Mr. Mart thinks, and probably with reason, that the disease consists more frequently in functional *disorder* than in any cognizable *disease* of structure in the parts affected—or may be sympathetic of disease, or even disorder, in a distant part. Hence it is, that medicines directed to the constitution generally, are more beneficial than local applications. Mr. Mart has found strychnine very useful in this painful malady. He has frequently found the blood of patients labouring under neuralgia to be *buffy*, and he seems inclined to connect a diseased condition of the blood with tic douloureux. We shall now glance at one or two of the cases.

Case 10. A young officer had been exposed to wet, and suffered from what was considered to be rheumatism of the face for several weeks. The pain remitted in the night. The extraction of a molaris relieved him for three or four months. But in the succeeding Autumn the paroxysms of pain became almost insupportable, and he had been the victim of intense suffering. In this condition he applied to Mr. Mart. The principal seat of the pain was now the left side of the upper jaw, extending to the nose, corner of the eye and forehead. The upper lip and front teeth were also affected. The gums were red, swollen, painful, and spongy. The general health appeared good. The gums were freely scarified, and it was found that some portions of the sockets were denuded.

"The patient was directed to apply daily two small leeches to the gums of

the upper jaw. After six applications the symptoms were palliated, the attacks diminished in intensity, and the remissions between the paroxysms were longer. He continued thus improving for twenty days, when the disease became stationary. The pain being now more obtuse, the cheek could be pressed with impunity. The side of the face was rubbed with a spirituous solution of strychnine, (one grain and a quarter being used at each application), three times a day. A sense of heat and tingling was felt in the skin. The attacks gradually lessened, and after persisting in the external use of the remedy seven weeks, the patient found himself free of every uneasy sensation. Three months afterwards the patient informed the author, that there was a disposition in the disease to return, and of his own accord he had used the strychnine fourteen days. More than two years have now elapsed without a recurrence of the malady." 126.

Case 11. A relation of the Marquess of Anglesea had been afflicted for many years with tic douloureux, the attacks continuing for indefinite periods. The pain was chiefly in the right side of the face. One or two suspected teeth had been extracted. He had occasional fulness in the head. Medical assistance, of the first quality, had been procured, yet to no purpose. There appeared to be no derangement of the general health, excepting that the circulation was rather excited. Some blood was taken from the arm, and presented the buffy coat. Then eighteen ounces were abstracted, and evinced the same quality. The detraction was repeated in a couple of days, and salines were exhibited. The fascial pain became sensibly diminished. Exposure to the inclemency of the weather in a journey to Brighton, produced a relapse, and on taking blood, it was not found buffy. The strychnine was now exhibited, and applied externally. In a month the pain was gone. The patient then went to the Continent, and the sequel of the case is unknown.

After stating some other cases, Mr. Mart concludes with this sensible observation.

"Strychnine must now be considered as a specific. It will not succeed in every case. Generally, however, its effects are beneficial, and considerable confidence may be placed in its virtues. It is not to be used to the exclusion of other remedies; but when cases occur which have resisted the usual modes of treatment, a trial of this remedy will generally be attended with mitigation of suffering, often with permanent relief." 148.

NEURALGIA.

This class of painful complaints has excited great attention for many years past. Our author is inclined to give neuralgia a very wide range—wider even than that which has been ascribed to it by a late talented writer —Dr. M'Culloch.*

"When the facial nerves are affected, or when the pain is confined to the course of the nerves in the upper or lower extremities, little difficulty arises in

* We were sincerely grieved to learn the melancholy fate of Dr. M'Culloch. It appears that, in jumping out of a chaise, he received so bad a fracture of one of his legs that amputation was rendered necessary, and that he died soon after the operation! He was a man of great, though eccentric talent—and his loss is deeply to be deplored by science in general, and medical science in particular!

detecting the disease; but very frequently symptoms of an anomalous description appear, and assume various characters, the origin of which is in the majority of cases exceedingly obscure. Many of those indescribable and tedious complaints which principally affect persons in the higher ranks of life, especially females are often connected with functional disorder of the nervous system. They often manifest themselves by weakness in portions of the body, often in particular parts of the legs and arms, or of the back. Some of the symptoms are referable to the internal organs. Sometimes the urinary apparatus or bowels are affected. Occasionally disorder of the digestive and pulmonary organs appears under the various forms of asthma, palpitation, spasms, and head-ache. 'There are few physicians who may not on reviewing many cases which have occurred to them of anomalous pains in different parts of the body, so as to counterfeit *gouty*, *bilious*, and other internal affections of the stomach and bowels, perceive some analogy between them and the complaints here pointed out.'" 151.

We need not detain our readers with an enumeration of the symptoms of neuralgia, as detailed by our author. Several cases, some of them well-marked, are related by Mr. Mart, in which strychnine appears to have been very advantageous. In a disease, therefore, so generally intractable as neuralgia is known to be, the remedy in question may be fairly recommended as a "dernier resort." We place more confidence in the statements of Mr. Mart, than in those who held their heads much higher in the medical world, because we know him to be a straight-forward "HONEST MAN"—who, according to Pope, and many others, ought to be considered as—the "noblest work of God." Of all arts, sciences, or avocations, MEDICINE is that which ought, for its own sake, and the sake of humanity, most dearly to cherish HONESTY. It is a science which contains the purest ore combined with the most worthless dross! From its nature and constitution, it will be exceedingly difficult of depuration. A thousand centuries will not constitute it a pure science. It is incapable of becoming one. It must always have a vast alloy of *conjecture;* and wherever there is conjecture, there will be Charlatanism and knavery!

Recherches Experimentales sur les Fonctions du Systeme Nerveux Ganglionaire et sur leur Application a la Pathologie. Par *J. L. Brachet*, Medecin de l'Hôtel Dieu, &c. &c. &c. Londres, Dulau & Co. Soho Square.*

Experimental Researches on the Functions of the Ganglionic Nervous System, and on their Application to Pathology. By *J. L. Brachet*, Physician to the Hôtel Dieu, &c. &c. &c. London, Dulau & Co.

We remember to have heard a distinguished lecturer on physiology once declare that, if the functions of the ganglionic system of nerves were once

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* In the 14th volume of this Journal we gave a short notice of this work, taken from a foreign Journal, not then having been able to procure the original.

clearly understood, the whole theory of medicine might be contained in a nut-shell. Without attempting to defend or dispute the truth of this assertion, we think we are quite warranted in considering a knowledge of the functions of this important, though mysterious, portion of the nervous system, of the utmost consequence to the practical physician, and that the man who does his utmost to throw light on the subject, is well entitled to the respect of the profession. The various and contradictory opinions which have been from time to time given with respect to the uses of the sympathetic nerve, (some having gone so far as to deny it to be a nerve at all,) sufficiently attest the difficulty of the investigation. To detail in a periodical journal these different opinions, would be uninteresting to our readers, and out of our own province. The every-day works on physiology will give whatever is to be said, and much more than can be proved, on this matter. That this system of nerves is principally concerned in the numerous class of diseases, the neuroses, such as hysteria, hypochondriasis, &c. is the opinion of the first physiologists. The importance of being able to distinguish those diseases seated in the cerebral system of nerves from those which have their origin in the ganglionic system is sufficiently obvious. In a dietetic point of view, an accurate knowledge of the functions of this nerve, presiding, as it does, over those organs by which the important offices of assimilation and nutrition are performed, cannot fail to be peculiarly interesting. However far removed we may be from perfectly understanding the various direct and indirect operations of this system of nerves on the several parts of the animal economy, the consequences of the perversion of these operations are too well known to every medical practitioner—and when it is recollected that these consequences are in a great measure brought on by voluntary indiscretion, and that the greater part of those chronic diseases, which prove at once so distressing to the patient, and so embarrassing to the physician, are purely the results of outrages against the laws of organic life, it will be readily admitted that any advance made towards a knowledge of this system, and of the laws by which it is regulated, must be most desirable, as affording the only glimpse of hope of combatting those obstinate and intractable diseases. The votary of pleasure and the victim of sensuality, those rebels against the laws of organic life, must every day afford to the scientific practitioner painful, though palpable, instances of the dreadful consequences of their rebellion. The illustrious Bichat has been represented to have been the first to shew that the ganglionic nerves are devoid of sensibility; the glutton and sensualist have the melancholy, and exclusive privilege of confuting him; they can boast, and a painful boast it is, that they *feel* they have such a thing as a stomach—but we find we are carried away rather too far from the immediate subject of our analysis; we shall now see what M. Brachet has done to elucidate the physiology and pathology of the great sympathetic.

Our author, after pointing out the importance of a knowledge of physiology, and the only means of attaining correct views of the science, namely,

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We are now enabled to lay before our readers a full account of M. Brachet's experiments, which, we think, are highly worthy of the reader's attention.—*Eds.*

by studying living man, by animal vivisections, and by cultivating comparative anatomy, adverts to the great obscurity which still hangs over the functions of the ganglionic nervous system. Two nervous systems, he says, are distributed through the animal economy, which diffuse and sustain life in all the organs, are the agents of all sensation and all motion, the dispensers and regulators of the vital actions, the first movers of all the functions. The one system is directly dependent on a principal centre, to which, ultimately, every thing is to be referred. All the experiments made on it produce sensible and appreciable effects, and lead to positive results. Prick a nerve of the cerebral system; the pain of one part, and the disturbance of another, at once point out its uses. Cut this nerve; the paralysis of the organs to which it is distributed complete the discovery. Let us now change the system, and transfer our experiments to the ganglionic nerves—and what a striking difference! The organs are dumb.

To account for this, in some measure, our author refers to the deep situation of the trisplanchnic nerve, which removes it, through nearly its entire extent, from the action of our instruments. In some points only can we reach it, and even there it is not connected with any important organ. The manner in which this nerve penetrates our organs, enables it to elude most of the attempts which might be made on it. It is not one nerve, one cord, but thousands of nerves and of cords, which enter it at once and penetrate it on all sides; so that if we would intercept the communication of an important organ with the ganglionic system, we must, in fact, entirely detach this organ, and deprive it of the materials of nutrition, since it is indispensable to divide the vessels in this way, their coats being traversed by an immense number of nervous filaments. The difficulty of making such experiments has been properly assigned by our author, as the cause of our ignorance of the functions of this part of the nervous system. Since the time of Willis, the most distinguished anatomists have made the great sympathetic the great object of their researches. Among these may be reckoned Vieussens, Winslow, Zinn, Johnstone, Haasse, Reil, and Meckel, who have severally stated opinions on the subject more or less probable. The illustrious Bichat was, however, the first to point out the truth; but, destitute of the aids of experiment and analogy, he was not able to state any thing positive, so that hypothesis has but too frequently usurped the place of fact. M. Broussais has made several attempts to unravel the mystery which hung so long over this department of physiology; but his work on the subject, more distinguished for the brilliant conceptions of a fruitful imagination, than for the results of accurate experiment and rigorous inductions, has by no means attained the desired end. Thus, every thing which has been hitherto done on this subject has rather tended to render it more obscure—certainly it has not removed the difficulty. Thus, says our author, in order to treat the question, we must, after the example of Descartes, forget every thing that has been done or said regarding it—we must recommence with new facts, and strike out a new road for ourselves, in order to attain truth, by studying the functions of the organ in the most simple beings, and then applying them to beings the most compound.

For the sake of order and arrangement in the study of the functions of the nervous system, our author proposes to examine its action: 1st, in organized beings generally considered, and, 2dly, in some particular organs:

the former section of the work being directed to the consideration of the general functions of the great sympathetic, whilst the latter will be confined to its particular or special functions; in the latter division, also, he intends to consider the influence of this system only in some of the organs—those, for instance, in which the influence of the sympathetic is combined with that of the cerebral nerves. He then commences with—

The General Functions of the Ganglionic Nervous System. Matter, he says, assumes two forms; it is either brute, inorganic matter, subject to all the physical laws which regulate this vast universe; or else it is living, organized matter, under the dominion of life and of physiological laws. The difference separating these two species of body is immense; on the one hand, death, immobility, unlimited existence, which chance produces and chance destroys; on the other hand, life, sensibility, motion, growth, limited duration, and reproduction, which perpetuates the species. All this is known —it falls under the cognizance of our senses; but what is the primary cause of this difference? What cause puts the line of demarcation between these two great classes of beings? Can it be organization? Yet, however perfect an organized being may be, death strikes it, and it at once becomes immoveable and insensible, and falls under the dominion of physical laws; and still its organization has not changed. It must, then, have had something more, which, the moment before, made it feel, made it move, and enable it to perform those numerous acts which constitute its functions. What is this? Persons tell us it is life, and they then imagine they have explained every thing. But what is life? This happy term, created for the purpose of cloaking our ignorance, evades the question, and does not solve it, no more than the anima, the archæus, the vital principle, &c. which are mere substitutes for it, and which leaves us just as far from the truth as ever. Without attempting, says our author, to penetrate, at this period, a mystery which probably will never be penetrated, we should content ourselves with observing facts and their connexion, and thence deducing natural consequences; and we should leave to metaphysicians the sublime researches regarding the nature and origin of metaphysical beings. Whatever this vital principle be, does not now concern us—with its effects alone we have to do: *ubi desinit physicus, ibi incipit medicus*, said Aristotle; an axiom which might be extended into, *ubi desinit medicus, ibi incipit metaphysicus.*

Our author commences with the vegetable kingdom; and, after shewing that these give every sign of possessing the property, or, as he would call it, the function of sensibility, and, going on the acknowledged principle, that every effect must have a cause, and that sensibility is but an effect, lays it down as a necessary consequence, that vegetables are endowed with a nervous system. We shall not follow him in his botanical experiments here, but proceed more directly to what is more immediately connected with the proper subject of the work. Every function, he observes, results from the indispensable combination of two things—organic arrangement, vivified by a nervous system, and the action of stimulants or functional excitants. But, according to the remark of Bichat, all the functions terminate ultimately in sensibility and contractility. This illustrious physiologist, whose creative genius gave a new impulse to the medical sciences, having seen that what established the grand difference between unorganized and organized beings,

consisted in the property possessed by the latter of feeling or receiving the impressions of bodies with which they came in contact, and of re-acting on them by a movement, which always originated in the contraction of some part, drew the consequence, that organized beings possessed their peculiar properties just as well as unorganized beings; and to the physical properties, attraction, elasticity, &c. he opposed the vital properties, *sensibility* and *contractility*. Then considering that animals and man in particular, had two kinds of existence, two kinds of lives, by one of which they attained a knowledge of all the beings surrounding them, and were placed in a certain relation to them, whilst by the other they merely acquired nutrition and growth, the latter being an appendage of all organized beings, he distinguished *animal life*, or the life of relation, that life which is exclusively enjoyed by animals, and *organic life*, which is common to all organized bodies; this distinction induced the necessity of another in the vital properties, which were accordingly divided into animal properties, or the properties of relative life, and into organic or nutritive properties. Thus then there were two sensibilities and two contractilities, *animal sensibility* and *organic sensibility; animal contractility and organic contractility*, and the latter was again called *sensible* or *insensible*, according as the phenomena were apparent or not to our senses. By the animal sensibility, the central organ of the life of relation receives all the impressions made on the nerves by the bodies with which they happen to be brought into contact. By animal contractility, this central organ re-acts by its volitions, and determines certain motions which tend to draw us near to, or remove us from, those objects from which it has received sensations. By organic sensibility, which might also be called molecular, each part of the body, organ, or tissue receives the impression, not from the bodies, but from those molecules with which it is brought into contact, without transmitting it to the central organ of the sensations of animal life. By sensible organic contractility, certain organs possess, in their organization, the elements of a motion which is sensible and apparent, but independent of the acts of volition. By insensible organic contractility each tissue being penetrated by the materials which pass through it, and having received from them the local impression by means of the organic sensibility, re-acts on them, molecule by molecule, causing them to undergo in their passage those changes which may be necessary for nutrition, the secretions, exhalations, &c.

In creating the vital properties Bichat, says our author, has rendered them so very interesting, and has presented them under so advantageous an aspect, and has deduced from them such beautiful consequences, that he has well redeemed the errors into which he may have been led. Can we, he says, help thinking as he did, or avoid adopting his sublime ideas regarding physiology and medicine, the properties of organs and tissues, when we read the *Anatomie Generale?* And yet the existence of these vital properties, this child of his imagination, is any thing but proved; or more correctly speaking, Bichat has transformed real functions into mere properties. Modern physiologists have well-nigh adopted these same ideas. Yet in the present state of medicine diseases are no longer entities; the symptoms point out the organ which suffers, but they are nothing of themselves, they have no independent existence. This is the basis of the physiological medicine, the partisans neither do vary, nor can vary on this point. After so

explicit a profession of faith, is it not astonishing to see these same enemies of ontology become themselves ontologists? They indignantly proscribe medical entities, whilst they create physiological entities. All their works on physiology recognize vital properties, which they have, it is true, dressed up in divers ways. But whatever be the garb in which they present them, they are still vital properties, the name changes not the thing; let them use the terms *contractility, living chemistry, vital force, irritability, excitability, tonicity*, &c. let them render them dependent on, or independent of, one another, they are still but vital properties. Now, these properties preside over functions, they act, encrease, diminish, re-act, enjoy, in a word, all the prerogatives of real beings. Yet where do they reside? how do they exist? no one knows; they are imaginary beings, mere entities. Here then is a physiology all together ontological, in as much as all the functions emanate from vital properties, which properties are themselves mere ontological existences. Now, I ask, says our author, what are we to think of a doctrine which proscribes ontology, and which rests on a physiology which is purely ontological? This is a palpable contradiction; and yet it is what every one says, what every one believes, and every one repeats. This monstrous union of an ontological physiology with a medicine which is not so, or at least says it is not so, cannot exist without itself destroying the scaffolding which is raised on it. In fact what becomes of this proscription of ontology, when we see ontology itself serve as the basis of medical theory? Is it not an edifice built on sand and undermined at its foundation? In going back to the etiology of diseases, those who are called physiological physicians tell us that they all depend on the alteration of organs, that this alteration depends almost exclusively on inflammation, and they inform us that inflammation is the exaltation of the vital properties, sensibility, contractility, irritability, &c. Here then are factitious beings, whose augmented action, another factitious being, constitutes inflammation the type of almost all diseases. Here then is ontology supporting all the edifice of the physiological doctrine, and yet we say, we know nothing of ontology! or perhaps, we would persuade ourselves that it is sufficient to have proscribed ontology on the one side, in order to have the right of admitting it on the other, and then to make ourselves believe that such is not the case. So then I shall be an ontologist, when, with some, I shall call a fever ataxic, and I am not one, when, with others, I shall recognize a vital force which presides, a living chemistry which works, a contractility which is the base of every thing, which encreases, becomes debilitated, &c. What shall we call ontology, if this be not it? They must reckon very much on our credulity, to think us so ready to adopt every thing without examination. It is evident then that physiology is infected with ontology, and that it keeps medicine in that obscurity and vagueness, from which so many endeavours have been made to rescue it. Vain is the attempt to present the vital properties as mere abstractions, as metaphors. Should we, when the most strict medical language is required, obscure it by metaphorical expressions? Hence, asks our author, does it not become necessary to introduce into physiology the same reform, as M. Broussais has introduced into medicine? would it not be well to make the language of both coincide and harmonize? to overthrow the physiological ontology, by recognizing the entities to which it lends existence and action, as the mere results, effects and acts of organs?

When this truth shall be diffused, then physiological medicine will no longer present that heterogeneous mixture now observable, and all the phenomena of physiology and pathology will be explained, in a manner of themselves, and with the greatest ease. Let us come to the proof of this; 1st. Animal sensibility requires the distribution of nerves through the part, as also their perfect integrity; they are its agents, its instruments; now, we have seen that the action of an organ was its function, thus animal sensibility is the function of the cerebral nervous apparatus. Whether they perceive light, sound, odour, or the tactile properties of bodies, the function is still the same; there is no difference except in the physico-vital organ, which is at its extremities. Why should it be said that there was function in one case, and property in the other? 2dly. Animal contractility is merely action, exclusive of the muscles, wherefore it is their function; 3dly, the same may be said of sensible organic contractility; it is effected by muscles, which differ from the preceding, only in being withdrawn from the influence of the will; their action however still continues the same, and this action is a function, since it has particular organs, and cannot be performed by any others; 4thly, Organic sensibility exists only in virtue of a nervous system, which, having only to preside over vital functions had no necessity for a single centre to which it should transmit its sensations; but though not perceived by the encephalic organ, this sensation still exists, as might be proved by a thousand experiments, if necessary. Who may not see liquids taken into the stomach absorbed with greater or less rapidity, according to the mode of sensation produced by them on the digestive passages? Who does not see these same liquids when absorbed, excite such and such a secreting or excreting organ in preference to any other, become changed into a recrementitious liquid, or be again carried out of the system by sweat or by urine? This sensibility being itself an action, since it is performed by a nervous system, namely the ganglionic, it is also a function, and a function too of this same system.

We must say, before we go farther, that the charge of begging the question, or more strictly speaking, of assuming too much, may be brought against the author in this place. He wants to shew that the sympathetic nerve, which some very distinguished physiologists, and among them M. Majendie, deny to be a nerve at all, constitutes an independent nervous system. To prove this, he mentions several actions which take place in the animal economy; these he assumes to be performed by the sympathetic nerve; and then he infers—but we shall say no more here, until we come to the second division of the work, wherein, if he gives us any thing like a *proof* of the agency of the ganglionic nerves in these several phenomena that are going on in the system, we shall most willingly either retract, or modify the charge, which we think, as far as our author has yet gone, might be fairly brought against him.

Our author seems determined in exploding from medical language altogether the term vital properties, since, he says, what has been so called, is the constant result of the action of an organ, is in fact a function. This mode of viewing the matter he thinks, will by rectifying the ideas, rectify also the language of physiology. Thus instead of speaking of the action of an excitant on the animal sensibility of an organ, we shall say that it acts on the cerebral nerves of this organ, consequently on a function and

on its organ; instead of saying that touching the uvula excites the organic contractility of the stomach, we should say that it excites its muscular layer. In vain, then, have the terms tonicity, irritability, &c. been introduced to designate the organic vital properties—such substitutes are any thing but happy.

Our author next anticipates an objection which he apprehends may be started against the reform he is so anxious to introduce into medical nomenclature. It may be stated, he says, that it matters very little whether sensibility be a property or a function, an agent, or an act of an organ; that the functions are not at all changed, and that they still remain the same. To this objection he answers, that he will apply the same reasoning to the physiological doctrine, by putting it for a moment in the place of physiology, and then say that the reform introduced by M. Broussais is altogether useless; that diseases are still the same, whether they be regarded as the effect or cause of the phenomena, and that the gastro-enteritis, whilst no longer an essential fever, has not changed its character, but still is and always will be the same disease, &c. Will not, he says, every physiological physician put down such reasoning as false and inconclusive? One of two things, either ontology has injured the progress of science, or it has not. If it has, as every one must admit, it should be attacked even to its very entrenchments, and pursued and hunted down in physiology as has been done in pathology. What M. Broussais has done for medicine, let us, says our author, do for physiology, and let not silly prejudice, and a lingering attachment to old studies and old opinions, retard us; let us lay aside all false shame, and proclaim openly and with confidence, that physiology shall no longer be an ontological being, no more than pathology. Then we shall cease to see a property, encreased or diminished, become a disease; we shall cease also to direct against this property, this metaphysical entity, physical or material medicaments. We shall see in the healthy body tissues, organs, and fluids: we shall find diseases to consist in the alteration of these principles; and we shall no longer set about treating mere properties, but organs, tissues, or altered fluids. Organised beings, he says, are divided into vegetable and animal. We know that the former discharge their vital or organic functions under the influence of ganglionic nerves. By analogy then we may conclude, that Nature, always uniform in her processes, has not created different organs for the same functions. Consequently, absorption, the capillary circulation, nutrition, the different secretions and exhalations, take place in animals, as in vegetables, under the influence of the ganglionic nervous system.

(Assuming the analogy in this case seems to us something very like assuming the entire question at issue. But we shall not interrupt our author.) Such, he says, was the opinion of Bichat, who gave this system the name of the nervous system of organic life; such was also the opinion of several other eminent physiologists, ancient and modern; but Bichat, unwilling to extend the action of organs farther than he could trace them with the scalpel, and not having carried his researches regarding the great sympathetic far enough, limited its action almost to the great visceral functions, and supplied the defect by the organic vital properties, wherever he could see no nerve. The difficulties which then existed no longer exist; the patience and industry of anatomists have surmounted them; and the

trisplanchnic nerve has been traced into the remotest regions, on the arteries which it accompanies, forming a plexiform network, many branches of which assume a gangliform appearance, regenerate and recruit the nerve and perpetuate the chain; as, without this successive renewal, it would have been impossible that a fine filament could supply an entire limb. Thus, in animals, the ganglionic nervous system differs from that in vegetables neither in its anatomical arrangement, nor in its functions. In both we find a long nervous cord, frequently interrupted by bulgings or ganglions, which are the centres, the terminations, or origins of each nerve. Those ganglions are the preservers, the regenerators of vital action, since by destroying them life is abolished in the parts to which the nerves supplied by them are distributed; then the vegetable deprived of them is no longer reproduced, whilst the smallest portion of a plant may become an entire plant, if it possess a single nervous centre. In both we find a distribution by means of filaments, which are not exhausted and extinguished by supplying the several organs, but which are multiplied, and, in a manner, reproduced, in the midst of a small body, a small central ganglion, which is placed either in the course of the filaments, or in the substance of the organs.

What we have to advance, regarding the functions of the great sympathetic, would end here, says our author, if the animal economy were as simple as the vegetable, or if these two orders of functions connected with the life of relation and the life of nutrition were entirely isolated. But animals are far removed from this functional simplicity, and it becomes extremely difficult to establish a line of demarcation between their different functions. They form a chain so closely connected that they all depend on each other, so that it is impossible to alter one without altering the rest. However, all the functions do not exist in all animals, nor even after the same manner. They follow a progression easily remarked, so that according as new organs become developed, new functions and new complications result from them. Besides, in vegetables, the nutritive functions are alone and are performed there by the most simple apparatus; whilst in animals the combination of the nutritive functions with the functions of relation has produced immense changes even in the organs of nutritive life, and has induced the necessity of more complicated, as well as of additional functions. Thus digestion, the circulation, respiration, are no doubt nutritive functions; but they are foreign to the vegetable, because the latter, destitute of animal life and fixed to the soil, must find around it the materials of these functions. In animals again, the mode of existence being different, they must be modelled on this new existence, and be adapted to its nature. Thence this admixture of actions and of functions which prevents us from perceiving the line of demarcation; thence this influence of one life upon the other, or rather of the nutritive functions on the cerebral functions, and vice versa.

Here our author describes the portions of nervous system allotted to the different orders of organized being, commencing with vegetables, zoophytes, &c. till he arrives at vertebrated animals; and, regarding the long series of these, he says, that whatever be the great differences which separate them, and which constitute so many distinct orders, the nervous system preserves the same disposition in them all; it accommodates itself to the modifications of the different functional apparatuses. In all we find, 1st, a brain enclosed

in a bony case, sending off from itself, or its spinal prolongation, the nerves of the senses and those of the organs of motion: 2dly, a ganglionic nervous apparatus, situate outside the spinal cavity, and placed before it, where it extends in two uninterrupted cords, and which, from each ganglion, send a crowd of filaments to the splanchnic organs and to the vessels; 3dly, a nerve setting out from the brain, and distributed, conjointly with the preceding, to the internal organs, to the viscera of nutritive life. According as the animals are raised to a more distinguished rank by their organization and their faculties, the brain acquires more developement, new parts are added to the parts already existing; so that we may in general judge, *à priori*, and by mere inspection, of the degree of intelligence of the animal to which the brain under examination may belong. With respect to size, see the immense difference subsisting between the brain of the whale and the brain of man, and you will not be astonished at the superiority of the faculties of the one above those of the other. It is by this apparatus that animals are what they are; it is by it that the one is endowed with surprising strength, and that the other makes up for the want of strength by ruse and agility; that one shews uncommon intelligence, whilst another charms by its musical talent. Suppress the brain, and all is inert and devoid of motion; no perception, no reflection, you have in fact a mere vegetable.

In order to shew that this suppression of the brain is not a mere supposition, our author mentions a very curious case, detailed in Graefe and Walther's Journal, by Professor Meyer of Berlin, of the total absence of all the cerebral nervous system;—the history of the case is very complete, and more rich in anatomical details than any we possess on heteradelphous beings. On the parasitic attachment of that which forms the subject of it, no part of the cerebro-spinal apparatus could be discovered. The sciatic, crural, and obturator nerves were entirely wanting. Neither could any nervous filaments be observed entering the muscles. All that could be found was a small filament accompanying the crural artery, and which appeared to come from the renal plexus; but with respect to this plexus, it could be distinctly recognized, as also the mesenteric plexus; they were both provided with ganglions. This heteradelphous fœtus must then have grown solely under the influence of the ganglionic nervous system, this being the only system it possessed. It was in fact a real vegetable.

We have now seen, says our author, the ganglionic nervous system serve as the sole origin of the nerves of vegetables, preside also over their functions, without forming any single centre, or *sensorium commune*. We have seen the system of ganglions, in the lower classes of animals, combine with a new system, having a common centre, which was so much the less extensive, and less isolated, as the functions were as yet but instinctive, and confined merely to the wants necessary to the support of life. We have seen these rudiments of brain assume more developement, become more isolated, and form more and more a separate and independent system, according as the relations of the animal become multiplied, and according as it no longer lived solely within itself, and established more extensive relations with surrounding beings. The separation, however, is never complete; numerous communications always connect these two orders of nerves; but the more we ascend in the class of beings, the more the cerebro-spinal attains the superiority. Remove the encephalic and spinal mass, and the large nerves

which derive their origin from them, compare them to the trifling assemblage of the ganglions and their nerves, and you will soon conclude that man is called to far nobler functions than to vegetate, grow, and be nourished—the cerebral system, the organ of intelligence, being so superior to the ganglionic system. In vegetables, it was easy to appreciate the functions of the ganglionic nervous system, since it is sole, and presides solely over their functions. In the lower animals, it was easy to appreciate the action of their ganglionic system, and its influence over these same functions; the same effect recognizes the same cause. But, according as the animal has become more perfect, and its functions more complicated, the result is, a combination of action between the cerebro-spinal and ganglionic systems, which was indispensable.

It is this combined influence of the two systems on the assimilating functions, that will form the subject of the second section, and which our author intends to examine in the principal organs of the animal economy; he calls it combined influence, because the anastomoses which exist between the two systems, and which establish numerous relations between them, do not render them dependent on each other. Thus, whilst the one is at rest or in sleep, the other continues to act, and acquires even a well-marked preponderance—whilst the one has ceased to live, the other still manifests its vital influence, whilst the one exercises and suspends its functions momentarily and at intervals, the other exercises them continuously, and without intermission. He now proceeds to the SECOND SECTION, in which he considers

The particular or special Functions of the Ganglionic Nervous System—by which is meant the action of the great sympathetic on each determinate organ. He premises that it is his intention to consider only the principal functions, those, more particularly, which are peculiar to the animal, and are wanting in the vegetable. He intends, in fact, to limit his enquiries into the action of the great sympathetic—1st, in the alternate contraction and dilatation of the heart—2dly, in the different acts of respiration—3dly, in the action of the stomach on aliments—4thly, in the intestines—5thly, in the bladder—6thly, in the organs of generation—7thly, on the secretions—8thly, in the sympathies—9thly, on vision—10thly, on the passions. Each of these subjects he intends to consider in a separate chapter.

And, first, with respect to the influence of the ganglionic system of nerves on the heart's action:—Of all the organs, says our author, the heart is that whose action is most simple. Being composed merely of muscular fibres, its functions differ in no respect from those of other muscles. Regarding the heart's contraction, the field was for a long time open, for want of positive experiments. Thus, some fallacious experiments induced Haller and his school to make irritability a property inherent in the fibres of the heart, and made Fontana say, that the nerves of the heart were of no use whatever, whilst Behrends and Soemmering denied that this organ received any nerves, in which latter opinion, several very distinguished physiologists joined. At the present day, since the splendid researches of Scarpa, no one any longer doubts but that the heart receives nerves. But what are they? and in what manner do they influence its movements?

The heart receives nerves, and a considerable number of them. The pneumo-gastric nerves and the cervical ganglions of the great sympathetic fur-

nish the filaments, which, by combining, go to form the great cardiac plexus, and thence are distributed to several points of the heart, subdividing into several secondary plexuses. The nerves supplied by the eighth pair, are much less numerous than those which come from the ganglions. Nature has done nothing in vain; thus these nerves, from whatever part they derive their origin, must have an influence. The question now is, to determine this influence, and to what nervous system it belongs. To attain the solution of this question, it becomes necessary to act, on the one hand, on the cerebro-spinal system; on the other hand, on the ganglionic system.

To determine the influence of the former, it would appear to be quite sufficient to isolate the heart, by dividing the par vagum, the only mode of communication existing between them. Our author, however, in order to attain greater certainty, and to leave no room for objection, directed his experiments, first, to the encephalon—secondly, to the spinal marrow—thirdly, to the pneumo-gastric nerve—and, 4thly, to the ganglionic nerves.

Influence of the Brain on the Heart. If the heart contracts only in virtue of the more or less direct influence which it receives from the brain, the destruction of the latter, or the abolition of its functions, must necessarily obolish or paralyse the heart's movements. If, on the contrary, the contractions of this organ are independent of the influence of the brain, it will be in vain to destroy or remove the latter—they will continue.

Exper. 1. I removed in succession, and by slices, the brain of a rabbit, three months old. The removal of the first portions produced no appreciable effect on the movements of the heart. According as I carried the instrument over the deepest layers, the heart became very much disturbed, and its contractions often irregular. I touched neither the annular protuberance nor the cerebellum. The animal lived eighty minutes, during which the heart ceased not to beat with regularity, though with more rapidity than natural. The left thigh having been cut at the end of an hour, there was a jet of arterial blood jerked forth feebly, but regularly.

Exp. 2. From a rabbit, of the same age, I removed the entire of the brain. At the moment of the removal, the heart became agitated, in some measure, convulsively; after leaving the animal to rest for two minutes, the contractions of the heart became regular. I removed progressively the entire cerebellum, proceeding from above downwards. The heart was agitated irregularly during the entire time of the operation. Two minutes after the operation terminated, the heart continued to beat with rapidity, but with sufficient regularity to keep up the circulation for twenty-three minutes. The annular protuberance was left untouched. The amputation of a fore-paw caused arterial blood to flow some minutes before death.

Exp. 3. On a third rabbit, which was better than three years old, I removed the brain and cerebellum as rapidly as I could: the same disturbance in the heart's action took place. I removed a portion of the medulla oblongata, the disturbance was redoubled. I removed the entire annular protuberance; and the heart, after some irregular contractions, ceased to beat, and the animal died.

Exp. 4. I repeated the same experiment on a rabbit ten days old. After the first impression of reaction caused by the instrument in each part of the operation, the heart continued to beat regularly for twenty-five minutes.

The artery of a fore-foot furnished, several times, a jet of vermillion blood.

Exp. 5. I removed from a cabiai of eight days old the brain, cerebellum, and annular protuberance. The disturbance of the heart and the irregularity of its contractions were extreme; I thought the animal was dead. However its calm was re-established. I then removed, as deeply as I could, the extremity of the medulla oblongata. Some irregular movements took place in the heart; and the animal died in less than two minutes.

Exp. 6. The preceding experiment was too important not to be several times repeated. It might be conclusive, since death had followed closely on the removal of the part of the encephalon in which the pneumogastric nerves arise. In consequence of this I removed the brain, the cerebellum, and the medulla oblongata, as far as below the origin of these two nerves, taking all the precautions possible that death might not be attributed to any other cause. This prevented not the animal from perishing in less than three minutes. I obtained the same results for several cabiais of different ages.

Notwithstanding my desire, says the author, to attain my end, I could not satisfy myself that I had succeeded. I possessed too many facts which confirmed me in the idea, that death must recognize another cause, and that the heart should contract notwithstanding this removal. At last I perceived that the stoppage of the larynx was the true cause of death, and that the animal died of asphyxia. Henceforward it was easy to obviate this inconvenience in my subsequent experiments.

Exp. 7. I took a rabbit two months old, made an incision in the trachea below the larynx, and placed a canula there to keep up the respiration. I proceeded to remove the brain entirely as far as the origin of the spinal marrow. I saw the heart, which at first was agitated rather irregularly, contract for upwards of fifteen minutes, after which I cut off a fore-paw, and I saw the blood gush forth.

It has been remarked by all physiologists that these experiments succeed much better when made on young animals, in which the brain as yet exercises but inconsiderable influence. The natural consequence to be deduced from these experiments is, that *the brain exercises no direct influence on the heart.*

This consequence, he says, has been repeatedly confirmed by pathology. In certain wounds of the head the brain has been entirely removed, and the heart continued to beat for some hours. Some experiments contained in Hufeland's Journal also confirm it. Six high-way robbers had been decapitated near Marburg;—the bodies of them all were opened some minutes after decapitation. The heart was observed to contract and dilate alternately with considerable strength, so as to produce regular pulsations. The movements continued to decrease for nearly half an hour. Irritation of a filament of the great sympathetic re-animated them for a moment: irritation of the spinal marrow produced no effect on the heart, whilst it caused the muscles of the trunk to contract. Acephalous fœtuses prove the same thing.

What, says our author, is more adapted to demonstrate this independence of the heart, than a glance at what takes place in paralysis, epilepsy, in the effects of opium, of narcotic and alcoholic drinks? An effusion of blood, serum or pus, tubercles, an accidental ossification, compress the brain, para-

lyse its action, and with it all the sensorial or motor organs, and still the circulation continues. He next considers the—

Influence of the Spinal Marrow on the Heart. The anatomical, physiological, and pathological study of the spinal cord had been neglected very much till latter times, notwithstanding some very ingenious views of Willis. To Legallois we are indebted for having directed the attention of physiologists to this part of the system, and for having led the way to new discoveries. Our author tells us, that he was present at most of the experiments made by him at the school of medicine, and that he was seduced by them with every one else. He thought with him that the principle of the heart's contractions resided in the spinal marrow, and that this part of the cerebral system was the true seat of the vital principle, since its destruction destroyed life by paralysing the organ of the circulation. The enthusiasm of novelty having given way to reflection, some of the experiments of Legallois inspired him with doubts, and induced him to resume the subject. The conclusion to which his experiments led him to come was, that the contractions of the heart, which keep up the circulation, are entirely independent of the spinal marrow. His experiments fully satisfied him that the heart might contract and the circulation continue after the complete destruction of the spinal marrow. He cautions his readers not to misunderstand him in his use of the term contractions; by it he means those regular normal contractions which keep up the circulation. This complete independence of the heart's contractions form an exception to a general law, which our author tells us he had been led to deduce from the experiments of Legallois, namely, that wherever muscular fibres did contract they did so under the influence of cerebral nerves. This independence of the heart's action, the fact of it alone, which is the principal mover of the circulation, being exempt from the control of the cerebro-spinal influence, he considers an additional proof in favour of the individual existence of the nutritive or ganglionic life. Every where, says our author, the muscular fibre owes the regularity of its contractions to the cerebral influence—the fibre of the heart is alone exempt from it: this fibre recognizes another influence, it is then totally unconnected with cerebral life. The stomach and intestines, it will be said appertain to organic life, and yet the contraction of their fibres is under the influence of the cerebral nerves. I deny not this fact, as I have established the former; but I shall observe that these organs, as well as the bladder and uterus, are not organs essential to organic life; that they are but organs of circumstance, adapted to the convenience of the animal; the proof of which is, that they are wanting in the greater number of living beings, whilst the circulatory apparatus is not wanting in any one. The organs, created for the animal, must therefore depend on the organ which essentially constitutes the animal, namely, the brain; whilst the heart is entirely an organ of nutritive life; the functions of this life are performed solely by the circulation; digestion, the urinary secretion, and uterine conception, are not indispensable to it, these being wanting in several organized beings.

As in most of the experiments of Legallois, and in all those made on animals of a certain age, we see the heart suspend its movements almost instantaneously, it may be asked, whether, such being the case, it is true that this organ is independent of the cerebro-spinal system, and one may be

disposed to question that isolated state of the heart just now established. This fact is true, says our author; but as one fact can never destroy another, and their apparent contradiction is owing to their being between them something intermediate which escapes us, it does not in any respect change either our experiments, or the consequences drawn from them. It only proves the association and close relations which subsist among all organs. It proves more particularly that the farther we remove from the first period of life, this association becomes more intimate, it being no longer possible to destroy it. The more the cerebro-spinal system is exercised, the greater its influence becomes, the more the two lives are united and combined, the less possible is it to separate them: they no longer form but one, though each organ preserves its functions.

The author, in further confirmation of his conclusions, appeals to morbid anatomy. He mentions a case from Morgagni of a child born at the full time, without either cerebrum, cerebellum, or spinal marrow—nutrition had gone on perfectly well; the child was well-formed, and free from all stench. Several other cases he also cites of a similar nature. He concludes by stating that his experiments, pathological facts, and the study of the developement of the cerebro-spinal organ have furnished him with the most convincing proofs, that the heart derives not the principle of its action from the spinal cord and that it is perfectly independent of it. He next proceeds to consider the.

Influence of the Pneumo-Gastric Nerves on the Heart. We have already said, that the heart receives nerves from two sources, from the great sympathetic by the cardiac nerves, and from the brain by the pneumo-gastric nerves. These latter nerves might incline one to think that, being the medium of communication between the brain and heart, the cerebral influence must be transmitted through them to this latter organ. Several experiments were undertaken by some of the old physiologists, both by tying, and dividing these nerves, in order to ascertain their influence on the heart's action. Willis was among the first of these experimenters. He divided the par vagum, and from the disturbance caused in the circulation by the operation, and the subsequent death of the animal, on which he experimented, he concluded that to these nerves the heart owed its circulatory powers. After the re-organization of the medical schools in France, the most distinguished physiologists recommended the experiments on the pneumo-gastric nerves; they observed that their division produced a perceptible, though merely a temporary, disturbance, in the circulation; but that this disturbance never arrested it, and that it never was the occasion of death, which was caused by the more serious disturbance of other functions. On recapitulating all that has been said regarding the influence of the cerebro-spinal nervous system on the heart's action, we shall see that the system is not necessary to keep up the circulation, since 1st, the brain may be entirely removed; 2dly, the head may be cut off; 3dly, the spinal marrow may be destroyed artificially or be naturally wanting; and lastly, the nervi vagi may be tied, cut and destroyed, without this function being abolished. However, as we have seen every experiment produce a disturbance in the movements of the heart, we cannot refuse to recognize a sort of *consent* and necessary union between the principal organs of the economy. The filaments of the pneumo-

gastric nerve which join the cardiac plexus, explain the re-action of the encephalon on the heart. The numerous filaments which establish the communication between the cervical ganglions and the spinal marrow, explain the re-action of the latter. These two modes of communication, on the one hand, of the brain with the heart, on the other, of the spinal marrow with the ganglions which give out the cardiac nerves, account for the numerous sympathies which subsist between these two apparatuses, in health as well as in disease. There is no well-informed physician who does not appreciate the multiplied phenomena resulting from this harmony. Though the cerebral influence on the heart may not be absolute, it still exists, and is very extensive; it is it which performs the principal part in the numerous passive sympathies of the heart. An organ suffers, the heart is sympathetically disturbed; the thing takes place in this way: the cerebral nerves of the affected part are irritated and transmit the irritation to the brain, this re-acts on the heart, and thence the circulation is accelerated. This is so true, that if the communication between the brain and heart be interrupted, there is no longer any re-action, the heart is passive amid the greatest excitement.

The author here introduces two experiments on dogs; in the first of which he divided the two pneumo-gastric nerves, in a dog of six months old, with the usual precautions to prevent suffocation. An hour after the animal was perfectly tranquil and the heart beat regularly. He irritated the wound, and pulled the upper extremity of the nerve; at each pull the animal manifested signs of pain, the heart remained passive, and its movements were unchanged. Some minutes after he opened the cranium and lacerated the brain; the animal fell into a state of stupor without the heart being affected; he then carried the instrument towards the medulla oblongata, when different convulsive movements took place, the heart still continuing passive; on plunging the style deep into the vertebral canal through the occipital foramen, the respiration was arrested, some irregular movements of the heart were observed and the animal died. In the next experiment he practised the same treatment on a dog of the same age and size, except that in this case he left the nervi vagi untouched, though the same wounds were made in the neck as in the preceding experiment. After one hour's rest, he irritated the wounds of the neck in different ways and soon observed the heart's contractions to become very much disturbed and hurried. After a half hour's rest calm was re-established, the cranium was opened, and several portions of the brain were removed; a needle was then carried as far as the medulla oblongata: the heart became very much disturbed, and its actions very irregular. The two pneumo-gastric nerves were then divided, the disturbance of the circulation continued; on establishing the artificial respiration, the heart gradually contracted with more regularity. A needle was carried in every direction and over every part of the medulla oblongata without any effect, the heart continued passive, but ceased to contract as soon as the needle was plunged into the spinal canal.

From these two experiments our author infers that the brain is the intermediate agent in a number of sympathies, that it is at first influenced itself, and then re-acts. The passiveness of the heart when the medium of communication between this viscus and the brain was destroyed, and the acceleration of its contractions when the pneumo-gastric nerves remained

untouched, sufficiently establish this active part taken by the brain in sympathies.—The pneumo-gastric nerves not only serve to establish the re-action of the brain on the heart, they also serve to transmit the re-actions of the heart on the brain; they maintain a reciprocal influence between these two organs. It is by them that the brain perceives the pain of carditis and pericarditis. It is by them also that that very painful sense of strangulation is occasioned, that real convulsion of the larynx, produced by the recurrent nerves. It is by the cardiac nerves, on the contrary, that the pain is carried to the back, to the lower cervical ganglions, where they come to derive branches of communication with the spinal marrow. It is by these same nerves that the spinal marrow is so deeply affected as to be almost paralysed in its re-action on the respiratory muscles, whence result those distressing dyspnœas so frequently met in diseases of the heart.

Influence of the Great Sympathetic on the Heart. As the heart does not contract under the influence of the cerebro-spinal system, it becomes necessary to seek the source of its movements elsewhere than in the brain, cerebellum and spinal chord: or else, after the example of the Hallerian School, are we to find the principle of its contractions in its own organization, and are we to present its fibre as the type of irritability? But, if the heart was not subjected to the nervous influence, why should it receive nerves? Since Scarpa's work, can it be said, with Soemmering and Behrends, that the cardiac nerves do not penetrate into the muscular fibres of the heart? or, with Fontana, that their use is not known? Does not Haller contradict himself, when, after having spoken of anencephalous fœtuses, which might have furnished him so powerful an argument in favour of irritability, he adds: *Plerisque medullæ spinalis etiam fuit tantum, quantum sufficere poterat, ut cordis motus superesset.* We have, says our author, already seen that the pneumo-gastric nerves, the only cerebral nerves which go to the heart, have no direct influence on its contractions, since the circulation may continue for several days after they have been divided. In reasoning thus by remotion (par voie d'exclusion) it might be supposed that the cardiac nerves, which come from the ganglionic system, were the only nerves remaining to carry to the heart the nervous influence, which directs its regular contractions. Since the opinion expressed by Winslow regarding the attributes of the great sympathetic, an opinion adopted and sanctioned by the illustrious Bichat, the ganglionic nervous system, is destined to the functions of the organs of nutrition. Now, the heart being one of the principle organs, the centre in some degree of this interior life of nutrition, must naturally be immediately dependent on the organic nervous system.

However seducing such a mode of reasoning may be, it holds out but mere probabilities, and, as all these probabilities together can never become equivalent to a proof, nor establish a truth, it may be objected that the nervous system of the ganglions exercises no more influence on the contractions of the heart, than the cerebral system, this influence not being attested by any experiment. Our author feeling the full force of this objection and acknowledging its importance, set himself in search of some means of proving this action of the ganglionic nerves on the heart. Two means of accomplishing this presented themselves to him; either to destroy all the ganglions which supply the cardiac nerves, or to come near the heart

and divide these combined nerves. After several fruitless experiments on dogs, the failure arising from the hemorrhage which ensued, he succeeded, after placing a ligature on the two subclavians, in isolating on both sides the inferior cervical ganglions; he then divided all the nervous filaments proceeding from them. Instantly the heart, after a few irregular contractions, ceased all its movements, and the circulation stopped; the exposed carotids no longer beat; and when opened, they yielded but a few drops of blood. He repeated the experiment on another dog, and with the same result. Here, then, as the division of the ganglionic nerves going to the heart paralysed this organ, the obvious conclusion was, that these nerves were the agent of the heart's contractility. In another experiment made on several dogs, he says he saw the movements of the heart, which were at first irregular, after their first disturbance resume their calm state in some measure, remain more accelerated, but sufficiently regular to restore the circulation. I then, he says, sought what could be the cause of this difference in the result, and I attributed it to this circumstance, that the upper cardiac nerve sufficed to restore life to the cardiac plexus, and to keep up the regularity of those contractions so necessary to the performance of the circulation. So that, to be sure of success, it became necessary to divide at one and the same time the two upper cardiac nerves. A reflection here suggested itself. If, said I, it be true that the ganglions are independent of each other, and that each forms a nervous centre peculiar to the nerves which go from it, I shall to no purpose isolate the heart from all the cervical and ganglionic nerves which go to it. It will continue its contractions since this organ will preserve intact its ganglion, or upper cardiac plexus.

If this be the case, what we call the cardiac nerves do not deserve this name; they are but mere filaments of communication between the cardiac ganglion and surrounding ganglions; they are destined to keep up that harmony of functions so necessary to the union and consent of their performance, and to the production of the numerous sympathies of this organ; but they are not the agents of the heart's impulsion. In this sense, the cardiac ganglion resembles the ophthalmic ganglion, which has no necessity to communicate with the other ganglions to exercise its influence on the organ of vision. This mode of viewing the heart's action, as independent of all foreign influence, rendered new researches necessary. It was no longer on the brain, cerebellum, spinal-cord, nor on the cervical ganglions, that we must act, but nearer to the heart, on the nervous centre which directly supplied it with its nerves; in a word, on the cardiac ganglion. The position of this ganglion made me (says our author) despair of succeeding, and I could not help admiring the wisdom of Nature in having withdrawn from the action of foreign bodies what is probably the most important organ of life, and particularly in having secured, more than any other, the ganglion from which it derives the principle of its contraction, by so placing it, that it could not be reached but by destroying the most essential organs, which are ranged around it as if to protect it. It became necessary, however, to get at this ganglion; otherwise every thing was vague and uncertain with respect to the principle of the heart's action. After several attempts, says our author, I at length succeeded as follows:

"On a young dog I placed a double ligature as near as I could to the origin of the left subclavian. I divided the artery between the two ligatures

I exposed the cardiac nerves, traced them into the chest, turned back the first rib, by disarticulating its sternal extremity, and arrived by degrees at the cardiac plexus. When I thought I had it isolated, I carried the scissors into the wound and divided the plexus. The circulation, which but an instant before went on perfectly well, was at once arrested; the heart ceased to contract, the animal became convulsed, and died. I opened the chest, and the examination of the parts satisfied me that the cardiac ganglion was perfectly divided, so as to isolate the nervous filaments which proceed from it to form the other cardiac plexuses. The animal had lost but little blood, and the pulmonary vessels were gorged. Hence the death of the animal was the immediate and inevitable consequence of the division of the cardiac ganglion." In another experiment on a terrier, in which he adopted the same course as in the preceeding, the contractions of the heart, though irregular, continued and kept up the circulation; they continually became weaker, and after forty minutes the animal was dead. This experiment overturned the ideas suggested by the preceding. The cause of the difference, however, he found to be this, that the ganglion, from its form, was but partially divided; so that what remained not cut was sufficient to keep up the nervous influence; in the same manner as the brain may be partially destroyed, and still continue some of its functions. The animal, however, did not live long.

The inductions to which the author was led by reasoning, were thus confirmed by experiment. So that it is not merely because the brain, cerebellum, and spinal marrow are not necessary to the regular contractions of the heart, that we are to conclude that the great sympathetic is the nervous system which presides over these contractions; it is because experiment has proved to us that the circulation requires that system in its integral and perfect state, in order to be performed freely; and that every time its communications with the agent of impulsion were interrupted, the heart ceased to contract, and the circulation was abolished.

We have now followed our author in his experiments to prove the influence of the ganglionic system of nerves on the heart's action. In our next number we shall continue the analysis through the remaining part of the work, in which he endeavours to establish the influence of his system over the performance of the other vital functions.

OBSERVATION ON THE MEDICAL INSTITUTIONS AND PRACTICE OF FRANCE, GERMANY AND ITALY, &c. &c. By *Edwin Lee*, M.R.C.S. formerly House-Surgeon of St. George's Hospital. Octavo, Churchill, October, 1835.

IF knowledge were increased in proportion as medical men run to and fro, on the Continent, medicine would now be at a very high pitch in this country. English physicians and surgeons have not, we believe, improved *directly*, in their *practice*, by studying on the Continent. But they may have improved *indirectly* by acquiring more accurate and comprehensive

knowledge of pathology. But even this advantage has been somewhat over-rated. Morbid anatomy is not precisely the same in Germany and in England. This may appear a startling proposition, but it is a fact. If two men, of the same age, and, as nearly as possible, of similar constitutions, die in Berlin and London, of pneumonia, the same appearances will not be presented in both bodies. The pathological characters in the German body will be on a larger scale, or rather more intense in degree. The one will be an exaggeration, or kind of caricature of the other. And why? Because the pathology is modified by the treatment, which is so much more active in this country than on the Continent. Any one may become convinced of this without crossing the Channel. Compare continental delineations of morbid anatomy, especially where inflammation is concerned, with the appearances on dissection here, and you will conclude that our foreign neighbours have magnified or exaggerated. Still, it is but fair to acknowledge that our pathology has been much improved by our intercourse with France, Germany, and Italy, since the termination of the war. The advantages have been reciprocal; for our Gallic brethren in particular are rapidly improving in the energy of their practice—partly from observing the treatment of disease in this country, and partly from the criticisms which they read on their own practice.

Mr. Lee is known to the professional public by his "Notes on Italy and Rhenish Germany," published a few years ago. The present is a republication, enlarged, of the same work, including several places in Germany, not noticed in the first work. It will be a very useful companion for those medical gentlemen who are about to seek information on the Continent. It is not susceptible of regular analysis; but we shall cull from it a few matters that may be interesting to fire-side travellers at home. The following short extract may be useful in high quarters. Speaking of the French hospitals, Mr. Lee observes—

"Hospital physicians and surgeons are usually chosen from among the members of the central office. They are in general exceedingly regular in their attendance, make their visits at a regular hour every morning, and during the visit avail themselves of every opportunity of imparting clinical information to the students. Patients are minutely examined, and the daily progress of their case taken in writing by a clinical clerk attached to each professor. After the visit the professors of the faculty, and some others, give clinical lectures, and see out-patients." 2.

We do not suppose that the governors of our hospitals will ever give up their privileges—their "vested rights"—and allow the election of their officers to be taken out of their own hands. The polity of the Parisian institutions is so totally different from that of ours, that the same discipline can never obtain in both.

It is well known that the members of the medical profession, on the Continent, do not hold so high a degree of consideration in society as they do in England—and the scale of remuneration is much lower. How are we to account for this? The following is Mr. Lee's explanation.

"The trifling expense of the course of study allows admission to many of the poorer class of individuals, who would be excluded in England by the expenses attendant on their education. Many students exist upon one thousand francs, or even less, per annum, and in case of sickness are necessitated to be-

come inmates of the hospitals, where they find more attention and advantages than could be expected in their comfortless apartments." 16.

We have often touched on this subject before, and always with reluctance; but the good of our profession, and no personal motives, induces to advert to it again. No one will accuse, or even suspect us, of a leaning to the high aristocracy, either within or without the pale of the profession; but a daily observation of the miseries and degradations to which medical men are reduced, by the redundancy of their ranks, forces us to raise our voice against all *incentives* to enter the faculty of physic. If, indeed we wish to see the practitioners of the healing art degraded below the rank of the pettiest shop-keepers, we shall then advocate the principle of making every man a DOCTOR, who can afford to expend a couple of hundred pounds on his professional education. The consequences of such facilities of introduction to a liberal profession will be disastrous in the extreme. The multitudes who will aspire to the practice of physic will involve the whole in ridicule and contempt. We will give an illustration which has just presented itself to our notice. A poor clergyman whom we recommended to take a tour up the Rhine and through Switzerland, was taken ill in a town on the Continent, and sent for a medical man who was a physician, surgeon, and apothecary. This was on the 5th of September, 1835, and he was discharged cured, on the 17th of the same month. The clergyman was an exceedingly intelligent gentleman, and he shewed us the whole plan of treatment. We have no hesitation in declaring that it was the very worst that could possibly have been adopted. The wonder is, that the poor patient survived the disease and the *mala praxis* combined! And what was the bill for these twelve days' attendance? Only 30 Napoleons! Nearly 2*l.* 10*s.* per day!! The very inn-keeper cried, like a child, when he saw this bill, and declared that such a medical practitioner was a national disgrace! When a remonstrance took place, this cheaply educated doctor of medicine, surgery, and pharmacy alleged, in extenuation of his *modest* bill, that he acted as the physician, *nurse*, and *servant* of the patient!! When cheap education enables such people to come into the ranks, not by hundreds, but by thousands, we may easily anticipate a *levelling downwards* of the profession, till the continental rank is reached.*

We do not, indeed, advocate a scale of high fees to teachers and hospitals, but a long and laborious course of study which will answer the double purpose of checking the influx, and bettering the quality of practitioners. There will be no danger of scarcity in numbers, however high we raise the standard of education. It will, therefore, be madness not to strain the curriculum to the very utmost latitude, when a new code of medical legislation comes under the consideration of Parliament.

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* By an extract from the poor-law commissioners report, in No. 631 of the Lancet, we grieve to see instances, little inferior in turpitude to the foregoing. It is stated, that medical men have been in the habit of bribing the inferior parish officers to search out for extra-parochial paupers, for attendance on which, there was no limit to the amount—the charge made being levied on another parish! What, indeed, must be the state of our profession, when parish officers can get plenty of medical men to contract for medicines and attendance at the rate of two or three shillings per head per annum!!

Most medical elections are decided, on the Continent, by the *Concours*, a system greatly superior to the English mode of election, but, for the reasons before given, we can have little hope of such a procedure among the purse-proud and bull-headed governors of British hospitals.

Mr. Lee has found that the number of foreign practitioners, who now adhere to the purely "expectant measures in the treatment of disease," is very limited. This has resulted, in a great measure, from familiarity with English practice.

"The majority, however, appear to be reverting to the principles of the Medecine Hippocratique, which, less disposed to generalize and to consider inflammation present in most diseases, adopts less energetic measures, the practice being regulated by the actual condition of the symptoms in individual cases. The hospital practice of men professing opposite opinions is not, however, so different as might be expected from a perusal of their works. A pharmaceutical combination of drugs is not frequently employed, the remedies being mostly of a simple nature, and except the difference in regard to sanguineous depletion; tisanes, decoctions of simple herbs, mucilaginous and sweetened beverages, joined to tepid baths and enemata, are the medical means mostly used in the great majority of cases." 17.

Those who are of the Broussaian school—and the number is very considerable—proscribe purgatives in fevers, and, consequently, deprive themselves of one of the most effective weapons in warring with the disease! Mr. Lee is surprised that the diffusion of pathological knowledge in France has not led to more energetic practice, and endeavours to account for the circumstance in the following manner.

"This may, however, in my opinion, be accounted for by two circumstances; —first, that post-mortem lesions, the effects of disease, are often mistaken for its cause, and consequently the treatment must be less successful than one based merely upon the observation of symptoms; and secondly, that a routine line of practice is adopted against disease; sufficient attention not being paid to the various modifications the same disease may assume in different persons, the patient's constitution, strength, and other peculiarities of his case, not being sufficiently taken into account." 21.

If they mistake effects for causes, which we fear that a great many of them do, it does not speak much for their sagacity or reasoning powers. We do not deny that active remedies are often too freely used in this country; but the waste of human life resulting from the inert practice of the Continent is a far greater evil. Mr. Lee is rather mistaken in supposing that auscultation and percussion are at such a low ebb in this country. We have the means of knowing, that these important means and modes of investigation are becoming almost general in this country. The following passage will shew that the Continent is not the best school for the young *surgical* student.

"In several points connected with the treatment of surgical disease, there exists a material difference between England and the Continent. The most prominent of these consists in the absence of internal treatment in most surgical cases, by which surgery is reduced to little more than the application of dressings and the performance of operations. In France and Italy, scarcely any medicine is given in surgical diseases, the means of relief being principally restricted to rest, the general and local abstraction of blood, local applications, including counter-irritants, and, lastly, operations; which are often performed in cases where their necessity would be obviated in England by the timely adop-

tion of measures influencing the progress of the local disease, by their operation on the general system." 24.

This striking defect vitiates the whole of the Continental surgical practice, and not only so, but it often renders their writings useless—sometimes even injurious to British practitioners. Medical men of clinical experience, in this country, have long been aware of this circumstance, and hence the very feeble avidity with which Continental writings, especially surgical, have been and will be received in Great Britain.

"With respect to mercury, its action on the capillary system of vessels, and consequent effects in controlling inflammatory disease, do not appear to be known, or, if known, are not appreciated by continental practitioners. Calomel is generally considered merely as a purgative, and is occasionally administered as such. One writer in a popular work even says, that this medicine is almost entirely inert, and may be given in large quantities with impunity."* 25.

Mr. Lee remarks, that his observation in Continental hospitals induces him to believe, that numbers die annually there after accidents and operations, from starvation and constipated bowels, who, in this country, would certainly be saved by proper treatment. He has seen repeatedly patients allowed to go six, eight, and ten days, without ever being relieved in their bowels!!

They have, at length, abandoned the practice, or rather the theory, of healing wounds by granulation instead of adhesion—but it is only in doctrine, for, what with starvation and awkward dressing, adhesion by the first intention is a rare occurrence.

We cannot advert to Mr. Lee's account of the individual institutions in France, Italy, and Germany. Those who intend to visit them will take the book with them—and to others the account would not be very interesting. Mr. Lee has judiciously selected some clinical cases, illustrating the practice pursued at the different hospitals, and he has wound up the volume with an amusing account of animal magnetism and homœopathy—those precious effusions of German ideality, for which we refer our readers to the work itself. Mr. Lee is again on the Continent in search of knowledge, and will doubtless enrich the next edition with some valuable gleanings.

ON THE POWER, WISDOM, AND GOODNESS OF GOD IN THE CREATION OF ANIMALS, AND IN THEIR HISTORY, HABITS, AND INSTINCTS. By the Rev. *W. Kirby*, M.A. F.R.S. &c.

IN our last number, we endeavoured to give a concentrated *coup d'œil* of Mr. Kirby's first volume, closing our sketch with the subject of vermes. The second volume, or thirteenth chapter, opens with *cirripedes* and *crinoïdeans*. The *first* of these, denominated *lepas* by Linné, and known in this country by the general name of *barnacles*, have a soft body, protected by a multi-

* Dict. de Médecine et Chirurgie Pratique. Art. Mercure.

valve shell—are without eyes, or any distinct head—have no locomotion, but can fix themselves to various substances. Their body, which has no articulations, is enveloped in a kind of mantle, and has numerous tentacular arms, fringed on each side, and issuing by pairs from jointed pedicles. The mouth is armed with transverse toothed jaws, and furnished with feelers. They have a spinal chord, gills for respiration, and a heart and vascular system.

"These animals roll up and unroll their arms with great velocity, thus creating a little whirlpool, that brings to their mouth an abundant supply of animalcules, an action which Poli compares to fishermen casting a net." 3.

The functions and instincts of the cirripedes are little known—"of this we are sure—that they were HIS work who gave them being, and assigned them their station in the world of waters."

CRINOÏDEANS.

In the deepest abysses of the ocean, there probably lurks a tribe of plant-like animals, abounding in genera and species (judging from their fossil remains) which are rarely seen in a recent state. Only three or four specimens of these animals have been taken—and one of these is in the Hunterian Museum in London. They differ from the cirripedes in having no jaws, and, therefore, their food, whatever it is, must be animalcular or liquid.

The 14th chapter brings us to a "great branch in the animal kingdom, which, in its higher tribes, exhibits Divine Wisdom, acting in and by the instincts of creatures, small, indeed, in bulk, but mighty in operation, in a way truly admirable." This group is the—

CONDYLOPES.

The distinctive characters of this class or group are easily given. The animal is locomotive—body consists of two or more segments—legs jointed. This section of the animal kingdom has been subdivided by Cuvier and Latreille into three classes—crustaceans, arachnidans, and insects. Dr. Leach, taking the respiratory organs for his guide, begins with three primary sections—those that have *gills*—those that have *sacs*, and those that have *tracheæ*. Out of these he forms five classes—crustaceans, arachnoidans, acarines, myriapods, and insects. Our author finds it exceedingly difficult to determine the class which ought to be regarded as forming the first step in an ascending series. He begins, however, with the *crustaceans*. Like the infusory animalcules, these form a kind of centre, sending forth rays to different parts, some inclosed in a bivalve shell, others assuming more of the crustacean form, &c. There is no one character common to the whole of this remarkable class. Generally, however, they are covered, not by a calcareous and solid, but by a horny and thin integument. One group of them lives by suction, and is parasitic upon other aquatic animals—most of them, however, masticate their food, but without the aid of maxillary legs. This class our author divides into two orders, according as they inhabit fresh and

salt water—the *Branchiopods* and *Pœcilopods*. The first order mostly frequent stagnant pools, where they move about with great rapidity. They are regarded as predatory, and to make the infusory animalcules their prey. Some of them are supposed to be herbivorous. Like the infusories, they have the power of revivescence, after death by the drying up of the waters in Summer. Latreille thinks that some of them have the power, after drawing in all their organs, of hermetically sealing their shells till the return of moisture! It is in this class of animated beings that we first discover the remarkable phenomena of metamorphosis or moulting. These creatures fix themselves to some substance at hand, and then move about their limbs and the valves of their old shells till they loosen and cast off their exuviæ. These moults follow each other at an interval of five or six days, and it is not till after the third moulting that the animal acquires the reproductive faculty. Hitherto form after form has appeared on the stage of animal existence, each distinguished by characters indicating an elevation in rank and station; but *here* we are got among animals which, at different periods of their existence, assume a higher tone of character, and become endued with organs calculated for a more extended range. Sometimes from being purely aquatic, the animal (cyclops for example) becomes a denizen of the earth and air—or of air, earth, and water at the same time! It is doubtful whether the higher orders of the crustaceans undergo a real metamorphosis, or only change their shells annually. Insects, we know, do not increase in size after their last change.

"Do not these successive changes in the outward form, functions, and locomotions of so many animals, preach a doctrine to the attentive and duly impressed student of animal forms, and their history—do they not symbolically declare to him, that the same individual may be clothed with different forms, in different states of existence, that he may be advanced, after certain preparatory changes, and an intermediate interval of rest and repose, to a much more exalted rank; with organs, whether sensiferous or locomotive, of a much wider range; with tastes more refined; with an intellect more developed, and employed upon higher objects; with affections more spiritualized, and further removed from gross matter?" 27.

The power of multiplying in these animals is almost incredible. It is calculated that one female cyclops, after one fecundation, (which serves for several successive generations) will, in six weeks, prove to be the progenitrix of *four thousand five hundred millions* of other cyclops!! An animal of the present order was observed by Captain Koetzebue in such myriads, that the sea exhibited a red stripe, a mile long, and a fathom broad, produced by a species which individually was scarcely visible! These powers of multiplication, however astonishing to us, are, no doubt, given to these creatures for wise purposes. They supply food, in abundance, to a variety of other creatures, both above and below themselves on the scale of existence. In turn, they prey upon other and much more powerful animals. The gigantic whale, the sagacious dolphin, the terrific shark cannot defend themselves against these minute parasites.

The next order includes all the *marine entomostracans*, and is quickly dismissed by our author. The first section consists of a single genus, typified by the MONOCULUS POLYPHEMUS of Linné. In the West Indies it is well known as the KING-CRAB. Like the cirripedes, they have no distinct head

but they have a long angular tail, simple and compound eyes, &c. Some of them, in the eastern seas, grow to two feet in length. Its most remarkable part is the tail, shaped like a stiletto, and so sharp at the extremity, that it will easily pierce the body of almost any animal with which it comes in contact. Its legs are armed with pincers, and it is evidently predaceous upon small animals. The second section differ from the others by the manner of taking their food. They are parasitic upon the cetaceans, fishes, some reptiles, and crustaceans, whose juices they imbibe by *suction*. They often attach themselves to the gills of these animals.

CRUSTACEAN CONDYLOPES.

We are now come to a class where the organs of locomotion assume a more perfect construction, in some measure resembling those of the vertebrated animals. The developement of the locomotive organs, from the lowest to the highest order of animals, will form the subject of a distinct chapter in a future part of the work, and therefore we shall very briefly touch upon it here.

The anterior legs are strictly *arms*, terminating in a dedactyle hand, furnished with a kind of finger and thumb, by which it seizes its prey. This is the *chela* or claw of the lobster and crab. This structure is particularly fitted to their wants and situations. A hand like ours would be an incumbrance rather than an useful instrument of prehension, where great strength is concentrated into two fingers instead of being distributed over five. In some of the crustaceans, however, the claws are very small; but this is made up by number, and though they cannot lay hold of large animals, they can seize, at the same moment, several small ones. The shrimp, prawn, pandle, &c. afford examples.

Aristotle, long ago, noticed a crab found in Phœnicia, under the name of the horseman (Hippous) which he said ran so fast that it was not easy to catch him. Ollivier found that this account was true—at least of those he saw on the coast of Syria—and Bosc found a species in Carolina which he could scarcely overtake on horseback, and shoot with a pistol. Another kind of land-crab has a most extravagantly large claw on one side, and a very diminutive one on the other. When he retires into his hole, he leaves the large claw in the passage, to prevent the entrance of intrusive visitors. They will dispute a carrion with vultures. They only enter the water to lay and hatch their eggs. There is another kind that remain in burrows for months together, and are exceedingly prolific, though preyed upon by numerous animals, as otters, bears, birds, tortoises, &c. The HERMIT-CRABS have naked abdomens, unprotected by any hard crust; but God has given them a compensating instinct. They search about till they find a univalve shell fitted to their size, which they make their habitation and carry about with them. They thus, as it were, clothe themselves with the cast-off garments of other animals. This is the first instance we find in the creation of PHYSICAL HYPOCRISY—of *assuming* the aspect of a different animal—perhaps one that is known to be innoffensive, in order that the ASSUMER may deceive the unwary, and entrap his victim! There is a genus of crabs or rather lobsters which quit the sea at night, and ascend the cocoa-nut and other palm trees, to seize the fruit. This species is gigantic. Among the larger species is a

ferocious animal, the *thorny lobster* of the London market, which is sometimes nearly three feet in length. It is also called the *cray-fish*. The common lobster, so well known to both the ancients and the moderns, we may pass over. All crustaceans cast their crust annually—which seem a most wonderful operation, considering the density of the incrustation covering not only the head, trunk, and abdomen, but even the limbs! These animals live sometimes twenty years or more, and keep increasing in size during the greater part of their lives. The mode of casting their crusts was unknown till discovered by the French naturalist—REAUMUR. It is very curious. We shall extract the description of it.

"He observed that when one of these was about to cast its crust, it rubbed its feet one against the other, and gave itself violent contortions. After these preparatory movements, it swelled out its body more than usual, and the first segment of its abdomen appeared more than commonly distant from the throrax. The membrane that united them now burst, and its new body appeared. After resting for some time, it recommenced agitating its legs and other parts, swelling to the utmost the parts covered by the thorax, which was thus elevated and separated from the base of the legs; the membrane which united it to the underside of the body burst asunder, and it only remained attached towards the mouth. In a few minutes, from this time, the animal was entirely stripped except the legs. First the margin of the thorax was seen to separate from the first pair of legs; at that instant, drawing back its head, after reiterated efforts, it disengaged its eyes from their cases, and all the other organs of the anterior part of the head; it next uncased one of its fore legs, or all or part of the legs of one side, which operation is so difficult that young ones sometimes die under it. When the legs are disengaged, the animal casts off its thorax, extends its tail briskly, and pushes off its covering and that of its parts. After this last action which requires the utmost exertion of its remaining vigour, it sinks into a state of great weakness. Its limbs are so soft that they bend like a piece of wet paper; but if the back is felt, its flesh appears unexpectedly firm, a circumstance arising, perhaps, from the convulsive state of the muscles. When the thorax is once disengaged, and the animal has begun to extricate its legs, nothing can stop its progress. Reaumur often took them out of the water with the intention of preserving them half uncased, but they finished, in spite of him, their moult in his hands. Upon examining the exuviæ of these animals, we find no external part wanting; every hair is a case which covers another hair. The lower articulations of the legs are divided longitudinally at a suture which separates during the operation, but which is not visible in the living animal." 54.

The great crustacean host, of which we do not probably know half the species, is a most valuable gift to mankind, as well as to the various nhabitants of the waters—varying, as they do in size, from the great thorny lobster down to the minute tribes of entomostracans! Their power of multiplication defies diminution of their number by any ratio of consumption.

We must pass almost entirely over the XVIth Chapter an Mynapod Condylopes, though it contains many curious observations on the locomotive powers of this class of creatures, which we recommend to the reader. We shall merely allude to the *suckers*, which bear the same relation to the cephalopods that the hand or foot does to the higher animals. When the animal means to use this curious apparatus it applies its sucker flat to whatever body it wishes to adhere to. It then contracts its sphincter which produces a cavity or vacuum in the centre. By this contrivance it attaches itself to the foreign body with a force proportioned to the diameter of the sucker, and to the

weight of the column of water or air of which it is the base. This force being multiplied by the number of suckers, it is easier to tear the legs off the animal's body, than separate them from the surface to which they are attached.

It is not a little curious that some animals, which have no *organs* whatever for locomotion, have yet the *power* of transporting themselves to the most distant regions of the unfathomable ocean! The barnacle, for example, which is unprovided with any apparatus for motion, and, therefore, would appear to be destined to remain, during its life, in the spot where it was first created, can, by means of its sucker, take its passage on the back or belly of the whale, dolphin, shark, or other rover of the deep, and traverse thousands of miles without expence or trouble. As it does not draw nutriment from the animal which it rides, it quits its grasp when hungry, and floats about or sinks to the bottom in search of food, till inclined to make another excursion to some distant region of the deep!

There are but few of the vertebrated animals that are provided with suckers. The genus GEEKO, however, is one of them. Their suckers consist of transverse laminæ, occupying the terminal part of the toes. By means of these, they can walk against gravity, and thus pursue insects up perpendicular, or along prone surfaces. By these, they can mount the polished chunam walls of houses in India, or climb the trees of the West India Isles!

The author has made many ingenious remarks on the wings of insects, and some fishes (as the flying fish), and their comparison with the wings of birds. But we must pass over these, and numerous other subjects of great interest, in order to come to the prominent feature of the work, viz.

INSTINCT.

What is INSTINCT? It is more easily understood than defined. It is not easy to dissipate all the darkness that envelops the *secondary* or intermediate *cause* of instinct. Could even the bee and the ant tell us what it is that goads them to their several labours, and instructs them how to perform them, we would still have little reason to cry EUREKA! One thing is certain, that this mysterious impulse diminishes, as reason or intellect becomes developed in man and the higher animals, while as we descend in the scale, we come to tribes that exhibit, in the most miraculous manner, the workings of a divine power, performing operations that the intellect and skill of MAN would in vain attempt to rival or imitate!

The ancients had no, or very obscure notions of instinct. Aristotle himself resolves motion into intellect and appetite. He speaks of the hive-bee, but says not a syllable as to whether he attributes their wonderful proceedings to any faculty distinct from intellect. In one place he makes use of the following remarkable expression. "Some of the animals that have no blood, have a more *intelligent soul* than some of those that have blood, as the bee and the ant genus."* From this, indeed, it is clear, that the stagyrite drew no distinction between intellect and instinct—or rather that the

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* De Part. Animal. L. ii. cap. 4.

latter was the perfection of the former. We quite agree with our author, that instinct appears to be the direct gift of the Creator, and serves as a command, from which the animal cannot swerve. Intellect is also the gift of the Almighty; but man can use it or abuse it as he likes. We would illustrate our ideas of intellect and instinct, by a comparison of the cerebro-spinal with the ganglionic nerves and functions. The former are under the command of the will—at least the motions to which they give origin—the latter, or ganglionic nerves, perform their functions without any will or command—without even the knowledge of the individual. The limits, however, between intellect and instinct are not so easily fixed, some animals, as the dog, the elephant, and the monkey, exhibiting no trifling degree of reason, superadded to instinct. In one respect, instinct is superior to reason —namely, because it never errs, whereas the boasted intellect of man is constantly deviating from the rule of right. Mr. Kirby, after some prefatory observations respecting the *interference* of the Deity, in changing or suspending his own laws (observations which are far from increasing our respect for his own judgment), proceeds to an explanation of "the proximate cause of instinct." He says that this must be either metaphysical or physical—or a compound of both characters.

1. "If *metaphysical*, it must either be the *immediate* action of the Deity, or the action of some *intermediate* intelligence employed by him, or the *intellect* of the animal exhibiting.

2. If *physical*, it must be the action or stimulus of some physical power or agent employed by the Deity, and under his guidance, so as to work His will upon the organization of the animal, which must be so constructed as to respond to that action in a certain way; or by the exhibition of certain phenomena peculiar to the individual genus or species.

3 If *compound* or *mixed*, it will be subject occasionally to variations from the general law, when the intelligent agent sees fit." 230.

We hope our readers are more fortunate than ourselves, in finding any thing in the foregoing definition—beyond that which is said to be the legitimate object of language—the concealment of our thoughts! The first hypothesis was supported by Addison, and means, if it have any meaning, that "God is the soul of brutes." This idea of an anima mundi, however, is considered by our author as unworthy of the Creator—and, moreover, that it is erroneous, because INSTINCT does sometimes err, which would not be the case were God the soul.

"For, if God were their *immediate* instructor, would it be possible for the flesh-fly, as I have seen that she does, to mistake the blossom of the carrion-plant* for a piece of flesh, and lay her eggs in it; or for a hen to sit upon a piece of chalk, as they are stated to do,† instead of an egg? Still all instincts are from God, He decreed them, and organized animals to act according to that decree, and employed means to impel them to do so." 231.

We think there is a metaphysical subtlety in the foregoing passage which is far from convincing. If instincts be from God, and God has decreed them, their occasional liability to err—or rather to be deceived, is as derogatory to the Deity as if he himself was the direct agent. Besides, we do

* Stapelia hirsuta. † Spectator, ii. n. 120.

not think that the instinct of the hen is in error, because a piece of chalk so resembles an egg as to deceive her. If she went and sat upon a piece of hot iron, we would say decidedly that her INSTINCT was as much at fault as REASON is, when man rushes upon his sword. When the birds pecked at grapes, chiselled out of the marble by the ancient sculptor, it was never said that their *instinct* was in fault, but only their *perception*!

It appears that Mr. French is the author of the other hypothesis—the *intermediate* agency of the Deity as the cause of instinct—in other words, that angels and demons are employed in urging animals (man we should suppose included) to good and bad actions. We shall not waste any time upon this brilliant hypothesis, and, to do justice to Mr. Kirby, he discountenances this doctrine, though he deems it worth his while to combat it.

He next considers "whether instinct be the result of the intellectual powers of the animal"—and concludes in the negative, because, in fact, the more intellect, the less instinct do we find throughout the great chain of animated beings. The following passage is sufficient answer to the mistakes of the hen and the flesh-fly.

"But when we reflect further, that even in cases where the instincts are most complex and wonderful, the animal practises them *infallibly*, without guide or direction, and is as expert at them when it first emerges into life, as when it has been long engaged in the practice of them; it follows that it must be instructed in them from the first moment of its existence in the state in which it exercises them, by an infallible teacher. The bee, the moment it emerges from the pupa, begins to collect honey and pollen, and to perform all the other manipulations that belong to her instincts." 237.

In the higher animals, it is true, the case is different. They emerge into life in a state of helplessness that requires, as in man, a temporary sojourn under the protection of the parent. These have more of intellect and less of instinct than the bee—but the *plus or minus* does not constitute an essential difference in the kind of instinct. This *storge* stimulates the parent to take care of the young, till the young is able to provide for itself, when the link of connexion between parent and progeny is broken for ever.

"This is, therefore, chiefly instinctive; but in the most intellectual of all animals, where instinctive love ceases, rational love begins; and care and anxiety for the welfare of our offspring, and affectionate regard for their persons, continues after they cease to have any need of our help and attention." 238.

We wish we could flatter ourselves, that here we have a well-defined line of demarcation between man and the inferior animals. But whoever contemplates the difference of attachment between the mother and child, when the latter is young, and when both are old, must acknowledge that the bond of union is strong as animal instinct in the one case, and all but null in the other!

Our author candidly acknowledges, that "animals of the higher grades, by means of their organs of sensation, acquire ideas upon which they in some sort *reason*, by comparing one with another. Thus they get experience, and, as they grow older, literally grow wiser." This is, we fear, as much as we can say for the great mass of mankind! It is more, indeed, than we can say for multitudes of our fellow-creatures! If it be admitted, it deprives us of almost every distinction between man and animals, except in the *plus or minus* of reason—and REVELATION.

The following passage we cannot comprehend.

"With regard to truly *instinctive* actions, they invariably follow the *developement of the organization;* are neither the result of instruction, nor of observation and experience, but the action of some *external agency* upon the organization, which is fitted by the Omniscient Creator to respond to its action." 238.

Now, if instinct invariably follows the *developement* of organization, the legitimate inference is, that this developement is the cause of the instinct. What is instinct, but the aggregate functions of the animal. Digestion, the function of the stomach, is instinctive. The Creator endowed the structure of every animal, and every part of an animal, with its peculiar function or instinct, and we cannot see any necessity for further interference of the Divine Architect, after the endowment was once given. We do not think that instinct, then, is "an *external* agency *upon* the organization," but that it is, as we have said, the function or endowment of the organization, coeval with the structure, and willed by the omnipotent Architect.

We do not find any thing very definite or intelligible in the conjecture of our author, at page 242, where he imagines that "the great physical powers of the Heavens," those vicegerents of God, "may be the *inter-agents* by which the Deity acts upon animal organizations and structures, to produce all their varied instincts." This is surely explaining the "ignotum per ignotius." The following is very harmless and very amusing—but no more.

"An eminent French zoologist* has illustrated the change of instincts, resulting from the modification of the nervous system, which takes place in a butterfly, in the transit to its perfect or imago state from the caterpillar, by a novel and striking simile. He compares the animal to a portable or hand organ, in which, on a cylinder that can be made to revolve, several tunes are noted; turn the cylinder, and the tune for which it is set is played; draw it out a notch, and it gives a second; and so you may go on, till the whole number of tunes noted on it have had their turn. This, happily enough, represents the change which appears to take place in the vertebral chord and its ganglions, on the metamorphosis of the caterpillar into the butterfly, and the sequence of new instincts which result from the change. But if we extend the comparison, we may illustrate by it the two spheres of organized beings that we find on our globe, and their several instinctive changes and operations. We may suppose each kingdom of nature to be represented by a separate cylinder, having noted upon it as many tunes as there are species differing in their respective instincts —for plants may be regarded, in some sense, as having their instincts as well as animals—and that the constant impulse of an invisible agent causes each cylinder to play, in a certain order, all the tunes noted upon it: this will represent, not unaptly, what takes place with regard to the developement of instincts, in the vegetable and animal kingdoms; and our simile will terminate in the enquiry, whose may be that invisible hand that thus shakes the sistrum of Isis,† and produces that universal harmony of action, resulting from that due intermixture of concords and discords, according to the will of its Almighty Author, in that infinitely diversified and ever-moving sphere of beings which we call *nature.*"‡ 241.

And, pursuing the ingenious speculation of Dr Virey, our author continues:—"What if these powers (celestial), employed as they are, by the

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* Dr. Virey.

† The Sistrum of Isis symbolized the elements.

‡ φυτις παυκιολη.

Deity, to effect his almighty will, should also be the intermediate agents which, by their action on plants and animals, produce every physical developement and instinctive operation—*unless where* GOD *himself decrees a departure from any law that he has established?*" Such are the vague, we had almost said the silly and superstitious, hypotheses in which men indulge, when they attempt to unravel *final* causes!! To the credit of the medical profession, its cultivators have long abandoned such fruitless speculations, and confined themselves to such investigations as are within the sphere of man's capacities. The allusion to God's *departure* from his own established laws, is not very suitable to the understanding of the nineteenth century. Even in the mephitic air of ROME, at the present time, such *departures* are classed pretty generally with the miracles of saints, and the liquefaction of the blood of Januarius. These *departures* are attended with this bad effect—that their *interpretation* is always claimed by man—each sect of religionists interpreting them according to their own tenets and creed! Thus, every *unusual* phenomenon is accounted a *departure* from the laws of God, and a divine interposition! We all know that the *cholera* was one of these *departures*, and that it was pronounced, from a thousand pulpits, as a direct visitation of Providence on a guilty world! From this great example down to the descent of a thunderbolt, or even the upsetting of a coach, every striking event is an interposition of the Deity!

But to return. Our author appears to come to the conclusion that, as "the immediate cause of the vegetable instinct is clearly *physical*, so may be that of the animal." Where the actions of the animal are the result of intellect, then, of course, the cause is within the animal. We apprehend that this doctrine of Mr. Kirby will be looked upon with some degree of distrust, or even alarm, by some religionists. We think it trenches closely, though undesignedly, upon materialism. But we may wisely leave these idle speculations, and come to more practical and tangible matters.

Instincts may be divided into three general heads:—1st. Those relating to multiplication of the species, including the care of progeny—2d, the collection of food—3d, hybernation.

The pairing of animals usually begins in Spring—when the sun is beginning to gain power, and vegetation is beginning to come forth. This certainly looks like physical, rather than metaphysical excitement. But the preparation for the young, and the affection of the parent for the progeny, cannot be so easily accounted for. Our author's objection to a metaphysical impress, rather than to a physical one, founded on the mistake of the duck in hatching the young ducklings, is, as we have observed before, a very weak argument against instinct, as the direct impress of the Creator. The following is very little stronger.

"In truth, with regard to the higher animals, many associations may take place between the child and parent that help to endear the former to the latter. In the first place, the very circumstance of its being the fruit of her own bowels, and fed with milk from her own breast, must bind it to her by the tenderest of ties; especially as, at the same time, it relieves her from what is troublesome. There is something also in infant helplessness, and infant gambols, calculated to win upon the doting mother. The subsequent alienation and estrangement of the female from her young, which takes place in all animals except man, appears, in the first instance, to be produced by their becoming troublesome and annoying to her; which, in some degree, may account for her desire to cast them off." 259.

To us the above appears a "weak and impotent conclusion." It attributes to physical causes what, we are confident, is *instinct* implanted in the animal by the hand of the Creator. We rejoice to see a DIVINE so *liberal*, on these points; and we think we are entitled to some credit with the Church for being so *divine*, where materialism is so often charged to our account. But granting all that our author states in the above extract to be the result of purely physical causes, how will it explain the wearisome incubation of the hen, for weeks together, and every day turning her eggs in order that both sides may have an equal portion of the animal heat from the animal's body? We are totally at a loss to explain this by any physical impulse or impress. It is the impress of the Deity.

The migration of birds is more debateable. Mr. K. thinks it is "altogether physical." We doubt it. What is it that directs the swallow in its flight, and enables it to return to the very house or wall where it nestled the preceding Summer? The nidification of birds is also a most wonderful instinct.

Of the reptiles and fishes we know but little in these respects—except that they do not appear to feel that instinctive love for their young, after birth, exhibited by quadrupeds and birds. They have instinct enough, however, to select proper places to deposit their eggs, where they can be hatched by artificial or solar heat.

"Those of some *Ophidians*, as snakes, are buried in sand, and not seldom even in heaps of fermenting manure; while those of venomous ones are hatched in the womb of the dam, and come forth in the serpentine form. The *Saurians* also select a proper place for their eggs, and then desert them; the crocodile buries hers in the sands near the river; where many, however, are devoured by the ichneumon, and its other enemies, and are even relished by man. In the *Batrachian* Order one species of *salamander** commits a single egg to a leaf of the *Persicaria*, which it protects by carefully doubling the leaf, and then, proceeding to another, repeats the same manœuvre, till her oviposition is finished: the *toads* and *frogs* lay their eggs in the water, the former producing two long strings resembling necklaces, formed, as it were, of beads of jet, inclosed in crystal; while those of the latter consist of irregular masses of similar beads. This gelatinous or transparent envelope forms the first nutriment of the embryo. The nuptial song of the Reptiles is not, like that of birds, the delight of every heart, but is rather calculated to disturb and horrify than to still the soul. The hiss of serpents; the croaking of frogs and toads; the moaning of turtles; the bellowing of crocodiles and alligators, form their gamut of discords." 265.

The general object of migration in fishes appears to be the casting of the spawn. The salmon leaves the sea for the rivers—the herring travels South—the mackarel seeks the North—"all of them guided by an *indomitable* instinct." This very expression of our author is an admission that *physical* causes are inadequate to an explanation of the phenomena presented in these cases.

The numerous tribes of the insect world have all their seasons, varying according to their several destinies for fulfilling the great law of Nature, and to which the organization of each species is adapted. When the period for laying their eggs is arrived, each is impelled by instinct, and not by ob-

* Salamandra platycauda.

servation, to deposit them in a place where the young may find appropriate nourishment.

"From the instance of the flesh-fly, above related, we learn that it is their *scent* that directs insects to a proper station for their eggs." 266.

This does not solve the difficulty. What enables them to know by means of this scent, which is the proper place of oviposition? GOD. Instinct.

FOOD. The different modes by which animals procure their food, afford the most striking proofs of creative wisdom in adapting the means to the ends.

"If we consider the infinite variety of substances, animal and vegetable, produced from the earth, which form the nutriment of its inhabitants—some solid and not easily penetrable; others soft and readily severed and comminuted; others again fluid, or semi-fluid;—we may conceive what a vast diversity of organs is necessary to effect this purpose. To render solid food, of any kind, fit for deglutition and digestion, the same mouth must be furnished with several kinds of teeth, some for incision, others for laceration, others again for grinding and mastication—while those that only absorb liquids merely require an organ adapted for suction, though often, at the same time, fitted to pierce the substance from which the nutritive fluid is to be derived." 267.

Our author believes that the fox has the power of *fascinating* the poultry, and can, in no other way, account for the manner in which he depopulates the hen-roosts by night. *Credat Judæus!* Of all animals, however, *insects* afford the most numerous instances of instinctive proceedings in this respect —witness the pitfalls of the ant-lion—the webs and nets of the spiders, &c. Many of them, however, require no stratagems, being endowed with sufficient force—witness the prominent eyes, tremendous jaws, and powerful wings and limbs of the tiger-beetle. A numerous tribe of insects that derive their nutriment from animals, merely deposit their eggs upon them—and thus, every bird that wings the air, every beast that walks the earth, every fish that swims the waters—even man himself, are infested in this way.

Hybernation. We shall not dispute the point of *physical* causes with our author here.

ARACHNIDAN CONDYLOPES.

Our author now quits speculation, and returns to natural history. No animals fall more frequently under observation than spiders. We see them every where fabricating their snares and lying in wait for their prey. We observe them ascend into the air without wings, and carried along by their webs, as by an air-balloon! The wonderful apparatus for producing the materials of their webs is thus concisely described.

"At the posterior extremity of the abdomen, formed usually by a prominence, is the anus, immediately below which, planted in a roundish depressed space, are four or six jointed teat-like organs, of a rather conical or cylindrical shape. The exterior pair is the longest, consisting of three joints; but these have no orifices at their extremity for the transmission of threads: the other four* con

* Mammulæ, Introd. to Ent. iii. 391.

sist each of two joints, and are pierced at their extremity with innumerable little orifices, in some species amounting to a thousand from each, from which their web issues at their will, or bristled with an army of infinitely minute biarticulate spinnerets,* each furnishing a thread at their extremity. These teats are connected with internal reservoirs, which yield the fluid matter forming the thread or web. These reservoirs in some species consist of *four*, and in others of *six* vessels folded several times, and communicating with other vessels in which the material that forms their web is first elaborated." 284.

The threads, after they issue from these organs, are united or kept separate, according to the will or the wants of the animal—and certain spiders can spin three different kinds of silk. The ordinary threads are about 24 times finer than those of the silk-worm—and yet one single thread will bear a weight six times that of the spider that weaves it! They employ their webs for three purposes—the construction of their snares—their own habitations—and the cocoon to contain their eggs. Some species have remarkable talent for architecture, hollowing out dens, boring galleries, elevating vaults, constructing subterraneous bridges, and forming doors that work upon hinges, and only want locks to make them equal to the same conveniences in the habitations of man! The interior of their houses is remarkable for neatness. Whatever be the humidity of the soil, water never penetrates them. The walls are covered with silken tapestry, presenting the lustre and gloss of satin. The bee and the ant furnish our author with ample illustrations of instinct, as well as the wonderful provision which God has made for all his creatures. We pass over a great space, and then mount another great link in the chain of creation.

Fishes.

Hitherto we found no internal jointed vertebral column with its bony appendages, permeating spinal marrow—and brain, the most wonderful of all organs, the sensorium of feeling and the seat of the will. A brain and spinal marrow became necessary to animals, as they increased in size, and became "endowed with gradually increasing intellectual faculties." Fishes are placed by most naturalists as the basis of the vertebrated sub-kingdom. They are characterized by body, with vertebral column, covered with scales, moved by fins, respiration by permanent gills, one ventricle in the heart, blood red and cold. They are distinguished from birds and beasts by their breathing water instead of air. In this class the sense of smell is the most acute of all the senses. By it they can scent their prey at immense distances, through the deepest darkness and most agitated ocean. The olfactory nerve of the shark is expanded over a membrane twelve or thirteen feet square! Many of their parts, as the fins, if mutilated, can be reproduced. They are long-lived animals. A pike was taken in 1754, with a ring bearing date, 1497—or 267 years. It was nineteen feet long and weighed 350 pounds. Their emission of phosphorescent light, both while living and dead, is inexplicable, and its use unknown. Their fecundity is at least a million of times greater than that of land animals, and if there was no check by mutual depredations, they would fill the ocean, die, and corrupt the

* Fusi, ibid. 392.

air by putrefaction. Hence the utility of sharks and other sea monsters that swallow hundreds of the smaller fishes at a mouthful. The scene, it must be confessed, is one of blood and slaughter; but as the Creator is merciful, he has endowed fishes with little sensibility, and therefore they suffer infinitely less in death, than we imagine. The following argument will create a smile on the countenance of the philosopher.

"Another lesson may be learned from the existence of these terrible monsters; for if God fitted them to devour, he fitted them also to instruct. The existence of creatures so evil, and such relentless destroyers of his works in the material world, teach us that there are probably analogous beings in the spiritual world; and what occasion we have for watchfulness, to escape their destructive fury." 387.

What does Mr. Kirby mean by the *spiritual* world? We have need enough of watchfulness in this *visible* world, to escape the *sharks* and other rapacious monsters; but how our watchfulness can secure us against the "relentless destroyers" of the invisible world, we do not know.

It has been found very difficult to classify fishes—Linnæus and Cuvier not being agreed. Lacepede is the prince of modern icthyologists, and our author seems inclined to approve his classification, but follows that of Cuvier, according to the last edition of the "*Règne Animale.*" We know comparatively little of fishes—except the best modes of catching and cooking them. We cannot dive into the depths of the ocean to investigate their manners and history; but we may take for granted that their instincts are as curious, and as demonstrative of the wisdom and goodness of the Creator, as those of terrestrial and aerial animals. We may, however, lightly allude to some curious particulars that are ascertained in respect to this interesting class of animated beings—so conducive to the support of the human race.

Among the Cartilagineans the HAG is remarkable for the singular means of escape from its enemies. It adheres to fishes by means of a sucker, formed of its lips. The adhesion effected, it lacerates the fish with its teeth, without their being able to shake it off, and then sucks their blood like a leech. But, in this situation, it would be liable to the attacks of other animals, were it not enabled to conceal itself by a copious effusion of excrement, which serves as an effectual protection during its depredation on its victim!

But among the diversified faculties, powers, and organs with which God has gifted various animals for warfare or defence, none is more wonderful than the electric batteries possessed by some fishes. They are, as it were, endowed with the lightning of Heaven, and enabled to employ an element more potent than gunpowder, to astound, smite, stupify, or kill the inhabitants of the waters. The faculty of the torpedo was known to Aristotle and Pliny. The Arabians observed this power of the torpedo and malapterurus, and seeing its affinity to the electric fluid of the clouds, called it *Raash*, or thunder.

"The *Torpedo* is the most celebrated of the electric fishes. In this the organ of its power extends, on each side, from the head and gills to the abdomen, in which space it fills all the interior of the body. Each organ is attached to the parts that surround it, by a cellular membrane and by tendinous fibres. Under the skin which covers the upper part of these organs, are two bands, one above the other, the upper one consisting of *longitudinal* fibres, and the lower of *transverse* one. The latter continues itself in the organ by means of a great number of membranous elongations, which form many-sided vertical bodies, or

hollow polygonal tubes, some hexagonal, others pentagonal, and others quadrangular; each of these tubes is divided, internally, by a fine membrane into several dissepiments, connected by blood-vessels. In each of the organs, from two hundred to twelve hundred of these tubes have been counted in individuals of different age and size, some regular but others irregular, which may form electric batteries. Each organ is also traversed by arteries, veins, and nerves, in every direction, which last are remarkable for their size." 398.

The two surfaces of the electric organ are supposed to be positive and negative. Almost always concealed in the mud these torpedos can kill the small fishes that come within their reach, or benumb the large ones. When attacked by the enemy, they can disable him by invisible blows. The Gymnotus Electricus has ten times more power than the Torpedo.

"It is stated that when the animal is touched with only one hand the shock is very slight; but when two hands are applied at a sufficient distance, a shock is sometimes given so powerful as to affect the arms with a paralysis for many years." 402.

"Humboldt gives a very spirited account of the manner of taking this animal, which is done by compelling twenty or thirty wild horses and mules to take the water. The Indians surround the basin into which they are driven, armed with long canes, or harpoons; some mount the trees whose branches hang over the water, all endeavouring by their cries and instruments to keep the horses from escaping: for a long time the victory seems doubtful, or to incline to the fishes. The mules, disabled by the frequency and force of the shocks, disappear under the water; and some horses, in spite of the active vigilance of the Indians, gain the banks, and overcome by fatigue, and benumbed by the shocks they have encountered, stretch themselves at their length on the ground. There could not, says Humboldt, be a finer subject for a painter: groups of Indians surrounding the basin; the horses, with their hair on end, and terror and agony in their eyes, endeavouring to escape the tempest that has overtaken them; the eels, yellowish and livid, looking like great aquatic serpents, swimming on the surface of the water in pursuit of their enemy." 403.

In a few minutes two horses were drowned. One of the electric eels (more than five feet long) gliding under the belly of a horse, discharged its battery on the region of the heart, and repeated the assault. The animal, stupified by the reiterated shocks, fell into a profound lethargy, and sunk under the water, where it was drowned.

These formidable *gymnoti*, however, are soon exhausted by their electric discharges, and become harmless, till their powers are recruited by rest.

"Swimming half out of the water, they flee from the horses instead of attacking them; and if they enter it the day after the battle, they are not molested, for these fishes require repose and plenty of food to enable them to accumulate a sufficient supply of their galvanic electricity." 403.

The *fishing-frog*, or sea-devil, as it is sometimes called, presents a remarkable instinct. It is often six or seven feet in length, yet it has neither defensive arms, nor force in its limbs, nor celerity in its movements. It makes up for the want of all these by cunning and stratagem. It plunges in the mud, or conceals itself among stones or sea-weed, letting no part be seen except the filaments that fringe its body. These appearing like worms, form a kind of bait by which the fishing-frog allures other fishes within its grasp, when it suddenly swallows them down its enormous throat!

We had hoped to conclude our Review of Mr. Kirby's work in this article; but find that it would require too much space. In our next number we shall dedicate ten or a dozen pages to reptiles, birds, and mammalians.

MEDICO-CHIRURGICAL TRANSACTIONS; published by the ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON. Volume the Nineteenth. Oct. 1835.

THE eighteenth volume was not complete by one-half; but, in consequence of the royal charter accorded to the Society, they have deemed it best to affix an index to the half-volume, and commencing with the nineteenth volume at once. The charter and bye-laws are prefixed; and now the "ROYAL MEDICAL AND CHIRURGICAL SOCIETY" is fairly launched into the world. We wish it success.

The volume before us contains nineteen articles, a large proportion of which are of a pathological character. As they are not connected by any indissoluble or even natural ties we shall select the following for notice in the present Number of this Journal, and complete our notice of the remainder in our next. Some of the shorter papers will be found by our readers in our Periscope.

The contents of the volume may be arranged under three, or perhaps four heads:—Medical, surgical, and physiological. Pathology can hardly be separated from any of the above branches. We shall take the medical department first.

I. CASE OF PULMONARY PHLEBITIS. By ROBERT LEE, M.D. F.R.S.

A young woman, 20 years of age, was delivered of her first child in the Parochial Infirmary of St. Martin's, 30th Nov. 1833. The labour was natural, and she went on well for five days, when a rigor occurred, followed by a profuse perspiration, dyspnœa, pain in the left side of the chest, and over the abdomen. The pulse was rapid. Bleeding, calomel and opium, and purgatives were employed. Diarrhœa and deep-seated pain in the region of the uterus were added to the other symptoms. She died on the 29th Dec. the pulse varying from 120 to 150, two shivering fits occurring each day, followed by profuse perspiration. There was some cough, with mucous expectoration. Dr. Lee got permission, through the assistance of Mr. Gosna, to examine the body. The following is the report.

"*Inspection.* The uterus had undergone the reduction of volume usually observed a month after delivery, and no morbid appearance was at first discernible in any of the abdominal or pelvic viscera. On slightly drawing up the uterus towards the brim of the pelvis, the fimbriated extremity of the left fallopian tube was seen adhering by lymph to the back part of the body and cervix of the uterus, and in the folds of the broad ligament near the left ovarium, an abscess about the size of a walnut was observed. On the left side, the veins of the cervix and body of the uterus were all gorged with purulent fluid, and lined with thin, ash-grey coloured false membranes; in the muscular tissue of the anterior part of the cervix uteri, was a small sloughy abscess. The left obturator, and the uterine branches of the internal iliac vein, were filled up with a soft yellowish coagulum of lymph, which adhered to the inner coat of the vessel, and contained pus in its centre, and was continued downward along the external iliac, terminating abruptly a little above Poupart's ligament. It also extended upward about half an inch into the common iliac, and terminated in a loose blunt point. A firm clot of dark-coloured blood, which did not adhere to the lining

membrane, filled the greater part of the remaining portion of the common iliac vein. Near the termination of this vessel, a coagulum of lymph, similar to that in the external and internal iliac veins, existed, which closely adhered to the inner membrane, and passed into the vena cava.

The whole vena cava, between its commencement in the common iliac and the entrance of the hepatic veins, was lined with a soft, yellowish-coloured pultaceous mass of lymph and pus, which adhered, in some parts loosely, and in others firmly, to the internal tunic of the vessel. The entrance of the right spermatic vein into the vena cava was closed with a firm false membrane, and the coats of the vena cava, above and below, were twice their natural thickness. The greater portion of the right spermatic vein was lined with dense false membranes of a bluish colour, and its coats were thickened and contracted.

The serous surface of the middle and inferior lobes of the lungs on the right side was covered with soft, yellow lymph, and their substance was hepatized. On cutting into the left inferior lobe the pulmonary texture was found dense, and of a dark red colour; and pus escaped from two branches of the vein, which traversed this portion of the substance of the lung. On careful inspection of the venous trunk and branches of the left inferior lobe of the lungs, all the appearances usually seen in inflammation of veins in other internal organs of the body were observed. The trunk of the vein, near its entrance into the left auricle of the heart, was found plugged up with a soft, yellowish-coloured clot of lymph, firmly adherent to the inner surface of the vessel, and extending into several of its principal branches in the substance of the lung. The coagulum of lymph on the outer surface was of a bright scarlet colour, when separated from the vein. The smaller branches of the vein, into which the solid lymph did not extend, were filled with pus, and in some parts were coated with a delicate layer of yellow lymph." 47.

The preceding is the only observation of pulmonary phlebitis which has fallen under Dr. Lee's notice. The case is remarkable for the great extent of the disease in other veins of the body. There can be little doubt that we have too much neglected an examination of the interior of vessels.

II. SINGULAR LACERATION OF THE PERITONEAL COAT OF THE UTERUS. By W. H. PARTRIDGE, Esq.

Mrs. B. was suddenly seized, when in the eighth month of pregnancy, with abdominal pains and bilious vomiting. In two hours serous, and then sanguineous discharge per vaginam. Opium, and afterwards some brandy, allayed the vomiting; but labour came on in six or seven hours from the commencement of the attack, and she was delivered of twins in two hours more. Great exhaustion succeeded—and the abdominal pain continued. An opiate was administered, without relief. She expired shortly afterwards.

On opening the abdomen, a quantity of thin, dark-coloured blood was found, amounting to about 40 ounces, but no coagula. The uterus was well contracted, and, on its posterior surface, were several transverse lacerations, all more or less curved in form, with the convex part towards the fundus uteri. They averaged from half an inch to two inches in length, and were very various in depth. The cause of these curious lacerations appears to us inexplicable. There are a few similar cases on record; but they lead to no practical results.

III. OBSERVATIONS ON FIBRO-CALCAREOUS TUMORS IN THE UTERUS. By Dr. R. LEE.

Perhaps we should have carried our division farther, and left a head for midwifery—we beg pardon, OBSTETRICY. The *pure* physician and surgeon are fast losing some valuable portions of practice—the physician-accoucheur hemming them in on one side, and the general practitioner driving them out of the other! Then they are clipped down by the dentists, the oculists, the aurists, the spine-doctors, the liver-doctors, the lung-doctors, the gout-curers, the shampooers, the vapour-doctors, the pox-doctors, *cum multis aliis*. However, we do not quarrel with these divisions of labour, seeing that they are productive of good in other sciences, and are probably beneficial in the healing art.

In the fifteenth and sixteenth volume of these Transactions, Dr. Lee endeavoured to give some account of those uterine affections which are the products of inflammation in one or more textures which enter into the composition of the organ: in the present volume he takes up the subject of tumors, not malignant;—and especially the fibro-calcareous tumors and polypi—occasioning some of the most important affections of that class of uterine diseases. We regret that we shall not be able to do sufficient justice to this important paper, evincing great research, as well as accurate observation. We shall do our best, however, to comprehend its principal features in this article.

The fibrous tumor (fleshy tubercle of W. Hunter,) is sometimes met with as small as a pea—in other cases, as large as a cricket-ball, or larger. It is generally of a globular form, or kidney-shaped, presenting, when cut into, a laminated or radiated semi-cartilaginous structure. In some cases the structure is granular, appearing like a congeries of smaller tumors, each having a thin capsule. The centres are sometimes found softened or liquid. In other cases, the density seems to increase with age, till the whole mass becomes cartilaginous, without vessels containing red blood. Or calcareous depositions are gradually formed in the substance of the tumor, till it is partially or wholly converted into carbonate and phosphate of lime They vary in density from that of pumice-stone to marble. In many cases which are glanced at, from other authors and contemporary practitioners, these tumors were accompanied by little or no pain. In the following case there was malignant ulceration in the uterus, and the sufferings were protracted.

Case. Mrs. B. aged 62, had suffered for many years from weight and uneasiness in the back, loins, and hypogastrium, with purulent or sanguineous discharge. She was married, but had no children. She ceased to menstruate at the age of 45 years. On examination, the hollow of the sacrum was found occupied by a large tumor, hard and connected with the posterior part of the uterus. The os uteri had undergone little change; but the fœtor of the discharge and constitutional symptoms led to the suspicion of organic disease. In the course of severe suffering, some small irregular concretions escaped from the uterus, with temporary relief—and this occurred several times afterwards. In the month of November, 1833,

after a long day's journey, she was attacked with rigor, vomiting, acute pain and other symptoms of peritonitis, which carried her off in 48 hours.

Inspection. Dr. Webster was present at the examination. The usual effects of peritonitis were present. The fundus and body of the uterus were destroyed by malignant ulceration; and to the posterior part of the organ was attached a large fibro-calcareous tumor, filling up the hollow of the sacrum, and displacing the rectum. The ulceration had extended through the parietes of the uterus to the tumor. The concretions were chiefly composed of carbonate of lime and animal matter.

A somewhat similar case has been recorded by M. Louis. And several others have been collected by our indefatigable author, for which we refer to the volume itself.

Fibrous tumors, when situated between the peritoneum and muscular coat of the uterus, give rise to no irritation, hæmorrhage, or derangement either of uterine function or general health. But when they attain a large size, and occupy a considerable space of the abdominal cavity, they produce all the numerous consequences of enlarged ovaria, from which, indeed, during life, they can seldom be distinguished. Under the peritoneum of the uterus, they do not prevent pregnancy; but when adherent to the posterior part of the body or neck of the uterus, they sometimes produce fatal consequences both to mother and child, by impeding its progress through the pelvis.

"When fibrous tumours are imbedded in the proper tissue of the uterus, women are frequently barren, or if they become pregnant, abortion takes place in consequence of the uterus being incapable of undergoing the necessary development in the latter months of gestation. When the ovum is not prematurely expelled, death may take place in such cases from uterine hemorrhage, soon after delivery. M. Chaussier saw a woman die from flooding, soon after giving birth to a full grown child, and there was a large fibrous tumour in the posterior walls of the uterus. This tumour was not situated so as to present an obstacle to the passage of the child through the pelvis, but soon after delivery it was perceived that the uterus had not the power of contraction. Profuse hemorrhage took place from that part of the uterus in which the tumour was lodged, the flow of blood could not be arrested, and the patient died." 111.

Dr. Lee examined the body of a woman who died after embryotomy of a still-born hydrocephalic child. The liquor amnii amounted to sixteen pints. Profuse uterine hæmorrhage followed the placental delivery—she died on the third day. He found a hard fibrous tumor, the size of a hen's egg, embedded in the muscular coat of the uterus, where the placenta had adhered. But we are unable to follow the talented and unwearied pathologist through this long and important paper. We can only make room for one short extract in conclusion.

"With respect to the treatment of the various tumours which have now been described, I have few observations to offer. Iodine, mercury, and all other remedies have little effect either in arresting their growth or promoting their absorption. Women who have fibrous tumour formed in the walls of the uterus, should avoid mechanical pressure of the hypogastrium, violent bodily exertion, and every other cause which may excite inflammation or a determination of blood to the organs within the pelvis. Where congestion has taken place, it should be removed by local blood-letting, mild cathartics, and anodynes. Profuse ute-

rine hemorrhage should be controlled by rest in the recumbent posture, cold application to the hypogastrium, and the internal use of the acetate of lead.

When any of these tumours pass through the os uteri into the vagina, they may be removed by the ligature or by the knife. If the root is soft and slender, the tumour may easily be twisted off by the forceps. In the course of the last twenty years, Dupuytren states, that he has removed two hundred uterine polypi by excision. Hemorrhage has only occurred twice in all the cases, and in both instances it was permanently arrested by the tampon. In eight or ten cases, after the application of the ligature, death took place from the absorption of pus into the system.

Where the root of a tumour is large and vascular, I am of opinion that a ligature should previously be passed around it, at as great a distance from the os uteri as is compatible with the removal of the disease." 132.

This paper is a highly valuable one, and deserves attention. As the talented author is now lecturer on the practice of midwifery in the school of St. George's Hospital, the pupils of that school will enjoy the advantage of receiving the lessons of one of the most philosophical professors of midwifery in this country.

IV. CASES OF WARTY TUMORS IN CICATRICES. By CÆSAR HAWKINS, Esq. Surgeon to St. George's Hospital, and Lecturer on Surgery in the Hospital School.

This is the second paper of the volume. Mr. Hawkins very properly points out the confusion that arises from the vague signification attached by various persons to the term malignant. A morbid growth or morbid alteration of structure may be incurable, that is, may be incapable of those actions that lead to its removal. Another morbid growth may not only be incurable, but may contaminate contiguous or distant parts through the medium of absorption or the absorbents. It is clear that the two conditions are widely separated, and ought to be so. But in practice, the same term, malignant, is too frequently applied with the effect of confounding or destroying the distinction.

But morbid changes of structure are not simply incurable without contaminating neighbouring parts, and malignant by contaminating such parts and the general system—they sometimes possess the power of contaminating contiguous structures, but *not* of poisoning the system at large. As Mr. Hawkins justly observes—

"We want some word for those diseases which *do form a new structure* capable, apparently, of contaminating the surrounding parts, so that the removal of the whole of the altered structure is necessary, but which *do not*, as far as I know, produce any contaminating influence upon the absorbent glands, and have no tendency whatever to reappear in a distant and unconnected part of the body. Such a disease is familiar to most surgeons in the skin of the face of elderly persons, and is often, but I think erroneously, called *cancerous* and *malignant*, since if the new structure at its basis be completely taken away, there need be no apprehension of any return of the disease, either in the same part or elsewhere: or at least if the new structure really possesses the nature of *cancer*, it must be clearly understood that the disease is *cancerous* and *malignant* in the very lowest degree. Of this kind also is the disease which I purpose to describe by the recital of a few cases which have fallen under my observation, and which, as far as I know, is not described in any surgical writings." 21.

If we recollect rightly, Sir B. Brodie published a case of the disease Mr. H. is now describing in the London Medical and Physical Journal. It was facetiously styled in some of the medical journals of that time, "a case of cat-o'-nine-tails tumor." Let us see what the characters of this disease are.

"The tumour," says our author, "which I will call the WARTY TUMOR OF CICATRICES makes its appearance in some old scar, many years after the injury which has produced it has been healed, whether a burn, a cut, or a laceration of the skin; and it arises equally from a flogging or a scald, in which the skin alone has been injured, or from a cut, or gun-shot wound, which injures also the tendons or bones below the skin, and makes a more complicated cicatrix. There appears in the first place a little wart, or warty tumour, in the cicatrix, which is dry and covered with a thin cuticle, but which soon becomes moist, and partially ulcerated, like the warts of mucous membranes, from which a thin and offensive, and semi-purulent fluid is secreted. In this stage it gives no pain nor inconvenience." 21.

Case 1. This illustrates the stage above described. A man had been repeatedly flogged in India, and in the cicatrix left by the lashes several warts sprang up, which coalesced to form a tumor; the probe passed between the warts to the basis of the disease. Around the tumor the skin was of a dark and livid colour, and studded with several smaller warts. Sir B. C. Brodie removed the tumor, then about the size of a small apple, eleven years after the infliction of the last flogging, and no return of the disease ensued.

In the second stage of the disease, proceeds Mr. Hawkins, the growth of the tumor becomes more rapid, the warty appearance being in some measure lost, a more solid substance projecting from the diseased skin, which bears much resemblance to the fungus of fungus hæmatodes; the formation of fresh warts being still seen around the tumor, and preceding the change which has been alluded to. The tumor is very vascular, and bleeds when touched, but its irregular surface still allows the probe to pass through its structure, except where it is most firm.

Case 2. A man, æt. 45, was admitted into St. George's Hospital, April 18th, 1827, under the care of Mr. Jeffreys.

There was a large tumor connected with the skin of the back, somewhat elevated, and with the edges overlapping the surrounding skin, which was drawn in and puckered round the tumor. The tumor was about five inches in diameter, and the skin appeared to be partly connected with the spinous processes of the dorsal vertebræ, and with the spine of the scapula. The tumor was warty and irregular, and had an ulcerated surface, discharging a thin, sanious matter. The man's countenance was sallow, the appetite however not impaired, the bowels in general constipated, and his sleep at night disturbed by shooting pain in the back.

Twenty-seven years previously to his admission this man had been flogged, and had suffered for eighteen months from the effects of that punishment. The cicatrix, however, remained quite well, until six months prior to his admission, when a piece of wood falling on it and grazing it, a small lump soon afterwards appeared in the part, and ulcerated. The tumor progressively increased till it attained the dimensions and the character which have been described.

The tumour was removed nine days after his admission by an operation, four days after which he died of phlebitis, that would seem to have commenced before the operation was performed.

Case 3. Susan Farrington, æt 28, admitted into St. George's Hospital Oct. 23d, 1833, under the care of Mr. Hawkins.

The left leg and foot had been severely scalded when she was a child. The sore was more than a year in healing, and the surface of the cicatrix had, since then, frequently ulcerated. The last recurrence of ulceration had been four months prior to her admission, and two months and a half before that time, the sore had displayed the characters we shall describe.

"There was a prominent tumour, about two inches and a half above the surrounding skin, which was four or five inches long, and extended more than two-thirds round the leg. The surface had the usual irregular warty appearance of these tumours, and discharged a very fetid pus. The cicatrization of the former scald extended from the toes to very near the knee, and was wrinkled towards the tumour. The tumour allowed the probe to pass through it very readily, and when thus examined in various directions, there seemed to be no softening of the periosteum of the tibia, nor of the fascia of the leg.

She had latterly become thin and out of health, with a furred tongue, and quick and weak pulse, and more or less restlessness, from excessive pain and irritation in the tumour." 26.

The patient at first improved a little under the judicious treatment of Mr. Hawkins. But then the tumor rapidly extended, and amputation was proposed, the extent of ulcerated surface rendering excision of the tumor impossible. The patient would not at first consent, but she subsequently altered her determination, and the limb was removed below the knee. The stump healed, and no return of the disease has taken place.

"It will be seen (says Mr. Hawkins), on examination of the preparations, that the tibia was perfectly healthy, excepting an addition of new bone from common inflammation, and that the disease had not extended through the fascia to which it adhered. The drawing was taken about three weeks before the operation, when the tumour began to lose some of its distinctive warty appearance, by becoming somewhat sloughy on the surface, and by the warts becoming more solid and smoother in their prominent extremities, so as to resemble fungus hæmatodes, or the fungous kind of cancerous tumours.

I allude especially to the perfectly sound condition of the tibia, because I believe many gentlemen, who saw the leg, were of opinion the bone must have been diseased, and must have given origin to the tumour. I have placed, however, upon the table the cast of a case of a prominent fungus of a different kind, which is occasionally formed over carious bone, and which ought to be carefully distinguished from the tumour which I am endeavouring to describe. This fungus grows to the same height as the warty tumour, and resembles it in some measure in appearance, but even in the cast perhaps the difference may be perceived between them. In this exuberant growth from the cancellous structure of a bone, the projections are more like granulations; they are softer and redder than the warty tumour, and none of the peculiar changes in the skin around can be detected, which, I believe, uniformly precede the growth in question; on the contrary, the circumference of the diseased parts has the appearance of a common ulcer of the skin, and if the carious part of the bone on which the prominence depends be carefully dissected out by the chisel, the ulcer in the skin will readily heal.

But while I wish to assert the origin of the warty tumour from the texture of

Van De Warker.

the skin, I am perfectly aware that a disease of some bone may be *added* to the alteration of the skin, as was shewn in the last case, or as the following case may also prove." 29.

Case 4. John Colley, æt. 45, admitted into St. George's Hospital, July 10th, 1833, under the care of Mr. Babington.

Twelve years ago, he cut the heel through the tendo Achillis so deeply, as to expose the bone. The wound healed in three months, but the ankle and instep continued stiff. Two years afterwards an ulcer formed in the cicatrix, and never subsequently cicatrized completely.

On his admission, a warty ulcer existed around the heel, at the bottom of which exposed bone could be felt. The tibia was enlarged, and the joint stiff. The leg was amputated, and the patient did well. On examining the ankle, the bone of the heel was found inflamed, and rough and scabrous, as in common inflammations, but without any appearance of the disease having caused any other alteration of its structure.

"It appears then that the tumour may be easily and safely removed from any part of the body. In the leg, indeed, the removal of the whole limb must generally be preferable where the tumour is at all extensive; but if its size admits of excision, there need be no fear of the disease being re-formed in any texture except the skin. Still, however, if there be any doubt whether the bone below may have become carious, or otherwise diseased, from the proximity of the tumour, a portion of it may be taken away without adding to the length of confinement." 30.

Case 5. John Callcott, æt. 49, admitted into St. George's Hospital May 28th, 1828, under the care of Sir Benjamin Brodie.

He had a yellow, wart-like fungus, about the size of a crown-piece, which rose above the skin, and through which some bone was felt; this was situated in the centre of some old cicatrices. He had received a blow on the shin from an anchor, twenty-seven years previous to his admission, which was followed by a large abscess, out of which some dead bone had been taken while in a naval hospital, after which the wound healed. Fourteen months ago he received another injury, which was also succeeded by an abscess, at the bottom of which the bone was exposed. The exposed bone was believed to be dead, but as it was not loose, he left the hospital till it was in a fit state to be removed; soon after this the fungus formed, and he was re-admitted, when the tumour seemed to be connected with the bone or the periosteum, or both. June 5th, the tumour being removed with the periosteum, to which it was fixed, a portion of the bone which seemed to be more vascular than usual was taken away with the trephine, so as to expose the medullary canal. The vascularity did not extend more than a quarter of an inch in depth, and the bone was not otherwise altered. The wound healed well, and the man has since continued free from disease.

Mr. Hawkins observes, what must, indeed, be obvious, that the knife is much preferable to caustics, as a means of removing these morbid productions. The knife is at once the less irritating, the more expeditious, and more certain of the two. We have hitherto seen the ulcer arrested in its progress to its termination, by the aid of surgery. To complete the picture, it is necessary to study it unchecked by art—to observe its ravages, and the mode in which it destroys the patient.

"After," says our author, "the tumor has become solid and prominent, a

new action takes place in it, and the tumour ulcerates and sloughs alternately, with a great deal of pain and suffering, and it is destroyed down to its basis, so as to present the appearance of a foul excavated ulcer, except in its circumference, where the skin is raised, thickened, and everted, and from time to time warts are generated, which again ulcerate and slough, till the patient becomes gradually worn out by suffering, but without having at all the sallow and peculiar aspect of a person dying of a malignant disease; and on examination of the body, no disease of the absorbent glands is found, nor is there, as far as I know, any sign of malignant disease in the interior of the body. This termination of the disease I witnessed in the following case." 23.

Case 6. James Sturgess, admitted under the care of Mr. Hawkins, Jan. 18th, 1832.

Sixteen years previously, he had a severe burn of the back, the cicatrix of which extends from the sacrum to the scapulæ. The sore healed, and the cicatrix continued sound till eighteen months before his admission, when "a small pimple" made its appearance. He picked it off; an ulcer formed, and it progressively extended. On his admission, the tumor which previously existed had disappeared, and an excavated ulcer, eight inches by six in diameter, was left in the loins.

No treatment availed to check the disease, which was too extensive for excision. In July, the patient died exhausted. The disease, even then, had in no part destroyed the fascia of the back, and, except in one or two places, where the sloughing had been most severe, the cutaneous basis still remained, although very thin.

"I shall be glad," concludes our author, "if the remarks I have thus presented to the Society, enable any surgeon to recognize this disease in its early stage, when it may be removed by the knife, without wasting time in the use of remedies, which seem to exert no substantial influence over its growth, and, if unsuccessful, will do much harm. The excision of the tumour, or warty ulcer, may thus prevent the necessity for the amputation of a useful limb, as in several of the cases I have related, or prevent the patient from being worn out by a disease that might have been eradicated, while its size still allowed of the operation.

If, again, the surgeon has dissected out such a tumour, or has removed a limb, when the tumour was too large to admit of separation, still it will be a great point to quiet his own and his patient's anxiety, by a confident assurance that the disease is not in the least malignant, as cancer is malignant, but is, on the contrary, entirely local in its origin, and does not contaminate even the adjacent parts, except in a very trifling degree, so that no future mischief need be apprehended." 34.

On the whole, this must be regarded as an useful and interesting contribution to surgical pathology.

V. CASES OF FRACTURE OF THE NECK OF THE FEMUR, WITH THE APPEARANCES OBSERVED AFTER DEATH. By J. HOWSHIP, Esq. &c.

These cases are possessed of interest, because they are attested facts that bear on the vexata questio—whether fractured neck of the thigh-bone, internal to the capsule, does not admit of ossific union.

There are two ways of putting this important question—first, it may be asked if bony union *ever* takes place, or, secondly, it may be inquired if the

union is not, in the *majority*, the vast majority of cases, ligamentous? He must be a hardy disputant who would affirm, that bony union never does and never can occur. A life, a century, all past experience and all present, were the observation perfectly exact and the record strictly true, would be obviously insufficient to prove such a position; for Nature's combinations are infinitely varied, and, even if such a thing had never been, we could not affirm that it never would be. Independently of this consideration, facts have been brought forward in relation to the present subject, which would seem to prove that bony union of fractured cervix femoris, within the capsule, has actually occurred.

But, although experience is insufficient to determine the impossibility of bony union, it is perfectly competent to pronounce if it generally occurs or not. So far as facts have gone, they shew that, under ordinary circumstances, the union is by ligament. Yet facts are still wanting to give to this law the precision and completeness of which it is probably susceptible. Mr. Howship has detailed a series of cases, in which death occurred at various periods after the reception of the injury, and in which dissection exhibited, in each instance, the actual condition of the parts at those epochs. Such cases are obviously possessed of much practical interest, if not importance. We shall present an outline of them.

CASE 1.—*Fractured Cervix Femoris—Appearances at three Weeks.*

The patient was 76 years of age. On the day after the accident, the limb was an inch and a half shorter than its fellow, and there was eversion of the foot. Three weeks after the fall she died.

"DISSECTION, *April 25th*, 1829. I found the fracture oblique; above, it passed through the cartilaginous margin of the head of the bone, extending obliquely round, and separating the lower part of the neck three-fourths of an inch below its junction with the head.

The separation of the bone was complete, but the ligamentous investment covering the cervix posteriorly was entire; at the lower portion of the anterior surface a single fibre of this texture remained, restricting the edges of the fracture to the distance of half an inch. The neck of the femur had lost half an inch of its length by absorption.

The synovial fluid was deeply tinged with blood, and between the fractured surfaces small masses of coagulated blood were observed, together with a minute detached cancellated fragment of bone. The cartilaginous surfaces of the joint were much discoloured, and appeared as if their texture was ecchymosed; these surfaces, soiled with grumous blood, it was necessary to wipe clean, when it was manifest the cartilage itself was stained of a dull red hue, from blood diffused apparently through its substance. There was no appearance of any attempt towards union.

The preparation demonstrates the capsule much thickened and ecchymosed; and the round ligament of a livid red colour, but so wasted as to be scarcely perceptible." 3.

CASE 2.—*Fractured Cervix Femoris—Appearances at two Months.*

C. D. æt. 75. At first, after the accident, there was no crepitus, nor was there any shortening of the limb, which was only slightly everted. In about six weeks, the limb was found to have gradually shortened about one inch.

"DISSECTION, *June 19th*, 1831. I found the capsule of the right hip much thickened and condensed, especially above the articulation. The fracture passed

round the neck of the femur near its head. The posterior half of the ligamentous expansion covering the neck of the bone remained entire, with the exception of two or three small openings. Indeed the degree of thickening and compactness of texture, in this expansion, forms one of the most interesting characters in this specimen. Inferiorly, the fracture left the margin of the upper margin sharp; and the trochanters drawn upwards, as interstitial absorption advanced, the inferior portion of the ligamentous investment had ulcerated; a similar change having exposed what remained of the inferior part of the neck of the femur.

Between the fractured portions, were several light, tender, fibrinous bands, tinged with blood, connecting the cancellous surfaces to each other. The neck of the bone had lost three-fourths of an inch of its length by absorption. The round ligament entire, was discoloured by blood effused into its interstitial texture; a similar tinge having extended itself into the fatty substance surrounding the attachment of the ligamentum teres at the bottom of the acetabulum; appearances still visible in the preparation." 4.

CASE 3.—*Fractured Cervix Femoris—Appearances at Five Months.* E. M. æt. 78. There were immediate shortening to the extent of an inch, and slight eversion of the foot, but no crepitus.

DISSECTION, *Dec. 5th*, 1828. "I found the fractured head of the femur separated within the capsule, which was thickened, compact, and ecchymosed. The head of the femur, raised from its place, enabled me to perceive that the cartilaginous surfaces were of a dark red colour, but not ulcerated; the round ligament ecchymosed, wasted, and pulpy. The soft matter occupying the cancellous fractured surface of the head, was a grumous granular mass. What yet remained of the fractured neck was undergoing absorption; the surface perforated with numerous foramina; filled with a soft granulated substance, similar to that just mentioned. At one point, the lower margin of the fractured neck was attached, by a fibrinous band, to the corresponding part of the head of the bone, and also to the capsule of the joint.

From the exposed cancellated surface of the cervix femoris, in this specimen, a flat cartilaginous plate is seen standing out in a vertical position; an appearance which, as the cartilages of the joint are still entire, it is difficult to explain." 6.

CASE 4.—*Fractured Cervix Femoris—Ligamentous Union at Five Months.* M. C. æt. 66. After the accident the limb was shortened two inches and a half; the foot everted.

DISSECTION, *Nov. 22d*, 1829. "In the hip-joint the neck of the femur appeared very much shortened, but not disunited from the head, which remained perfect, and covered with a thickened capsule. The capsule opened; the head of the bone was gently raised from the acetabulum. The round ligament was so wasted as to have become entirely disunited, at its insertion upon the femur. Some shreds of its substance still remained attached at the bottom of the acetabulum, and are still visible in the preparation; but in the depression upon the head of the femur, no trace remains. It appears that when fractured the head of the femur had been separated high up, and the neck of the bone subsequently absorbed. The head of the femur was no longer separated; for the neck removed by absorption, and the parts steadily retained in apposition, the head of the bone had settled itself so firmly into the space between the trochanters, that it appeared, at first sight, a specimen of ossific union.

To ascertain the precise state of the uniting medium, I divided the head and shaft longitudinally with a saw, in which operation the attachment of the parts suffered no apparent disturbance.

The section of this specimen in the preparation, presents a perfect example of compact ligamentous union. The fractured surface of the head, and basis of the

neck, are seen so closely in contact as to exhibit only an interposed lamina, scarcely thicker than pasteboard, of compact ligamentous substance."

CASE 5—*Fractured Cervix Femoris—Appearances at Ten Months.*
L. M. æt. 79. She fractured the neck of the right humerus and right femur. There were shortening and eversion of the lower extremity.

DISSECTION, *Oct. 13th*, 1832. "I found the uniting medium of the fractured humerus so soft as to admit elastic motion.

The capsule of the hip thickened: the fracture had separated the neck irregularly, about half an inch below its junction with the head. There were no fibrous bands to connect the fractured parts together; but the surface of the upper fragment was fairly covered with cartilage, except a small space at its lower part, the size of a split pea, presenting a hard, polished, ivory-like substance.

The ligamentous investment of the upper and back parts of the neck was entire, attaching the head and basis of the neck to each other. The neck of the femur was nearly absorbed; the part remaining being modelled into a little crutch, exactly fitted to receive and support the head, and almost entirely covered with cartilage. At the upper margin of the neck, and beneath the ligamentous investment, was a small flattened piece of cancellated bone, covered with cartilage, attached to the ligament, yet entering into the moving fabric of the new joint.

The round ligament, pulpy, and discoloured by ecchymosis, (although no fluid tinged with blood was found in the joint,) was attached by both its extremities; yet the cartilages and bone were ulcerating deeply away, by the agency of red fleshy granulations, still visible in the preparation; springing from within the bone surrounding each insertion of the ligament." 8.

CASE 6.—*Fractured Cervix Femoris—Appearances at Twenty-two Months.*
E. B. æt. 79. On the same day, there was slight eversion, but no shortening of the limb. Afterwards shortening gradually occurred.

DISSECTION, *May*, 1830. "The limbs laid straight; the right leg and foot much everted, proved to be three inches shorter than the left. Exposing the capsule, and opening the joint, I found the head of the femur separated from the shaft, by a fracture passing round near the margin of the head. The cancellated surface of the head was at many points covered with minute nodules of fine cartilage.

The neck of the femur was gone; part of the space between the trochanters being covered with a ligamentous fibrine, the intervals presenting open cancelli, with minute nodules of cartilage, similar to those on the opposite surface of the head. From the upper part of the basis of the neck of the femur, many rounded projections of bone, covered with cartilage, were put forth, over which the thickened capsule moved with facility.

A strong fibrinous band, three-eighths of an inch long, connected the upper margin of the head to the opposite surface of the neck. A second strong band connected the neck of the bone to the capsule, on the upper edge of the acetabulum.

The capsular ligament, on its superior part, was half an inch thick, where its breadth was so diminished as to have brought the margin of the trochanter nearly into contact with the acetabulum. Fibrinous effusion, not confined to the seat of fracture, presented itself on most parts of the synovial membrane: one little mass, attached by a narrow basis to the anterior part of the capsule, was nearly the size of a scarlet bean; another, entirely detached, in a recess

within the joint, had assumed all the characters of a loose cartilage, a fine elastic structure, and smooth surface.

The round ligament, although visible in the preparation, is exceedingly wasted and shrunk." 10.

CASE 7.—*Fractured Cervix Femoris—Partial Ligamentous Union at Eight Years.*

R. S. æt. 70. The accident was immediately succeeded by some shortening, which afterwards gradually increased. At the end of three years, the shortening amounted to two inches, and there was trifling eversion of the limb. In May, 1833, eight years after the accident, she died, having been enabled to walk well with a stick before her death.

Dissection. The fractured surfaces were connected by an unusually strong ligamentous adhesion, to demonstrate which required the cutting away of nearly the whole capsule. The fracture had followed the line of the margin of the head of the femur, the neck being nearly absorbed. Anteriorly, a line or web, of strong, short, fibrinous bands is seen, connecting the head of the femur, and upper part of the acetabulum, to the basis of the neck; these attachments extending from the upper to the lower margin of the acetabulum. Posteriorly, the fractured surfaces are seen attached by one thin band of fibrine only.

Inferiorly, the capsule, at one point, may be observed to be united by adhesion to the margin of the head of the bone.

CASE 8.—*Fractured Cervix Femoris—Appearances at Fourteen Years.*

S. M. æt. 50, fell on the hip, and both limbs being of the same length, she was pronounced, in an infirmary, to be labouring only under a bruise, In three months she walked well without a stick, and was afterwards fit for every laborious occupation. Twelve years after the accident the left leg was too inches shorter than the other, and there was slight eversion of the limb.

DISSECTION, 14 *years after the accident.* The line of fracture was about an inch from the margin of the head. The part of the neck remaining between the trochanters was so nearly absorbed as to have left only a gentlo elevation towards the middle of the space, answering to a depression on the opposite surface. Both surfaces were covered with a copious secretion of cartilage, on some parts deposited in flattened nodules, on others presenting an even surface.

The capsule was condensed as usual. In the substance of the capsule, above, a large bursa had formed, between the margin of the trochanter and edge of the acetabulum. There was a free effusion of fibrine into the joint; and the head of the bone was so closely adherent to the capsule, as to prevent its being raised from the acetabulum, to ascertain the state, or indeed, the existence, of the round ligament.

There were no fibrinous bands connecting the fractured surfaces; the only attachment of that kind were those just mentioned, the apparent object of which was, to steady the head and neck of the bone, in a particular position, and give freedom and facility of motion to the new joint.

It is evident, in this case, that when the weight of the body, in walking, was placed on the limb, the action between the femur and pelvis was amply

provided for, in the new articulation; although the principal support was derived from the great strength of the capsule.

Case 9.—*Fractured Cervix Femoris—Immediate Shortening—at first slight Inversion, afterwards Eversion of the Limb.*

E. B. æ 79, fell on the left trochanter. Next morning the limb was three inches shorter than its fellow. At first the toes inclined inwards—subsequently outwards. She was placed on the inclined plane. In two months, the fracture appeared to be united. In two months more, she could bear nearly the whole weight of the body on the limb. In three months more she left the infirmary.

Such is the contribution of Mr. Howship. As we observed in the commencement, it is possessed of much pathological interest. It goes very far to confirm the opinion that, in the great majority of cases of fracture of the neck of the femur within the capsule, no union, or ligamentous union only, is procured. When we consider that the subjects of this accident are usually very old persons, and weigh the small chance of obtaining bony union, use what endeavours we may, we shall be led to agree with Sir Astley Cooper, in not pushing the attempt to an injurious extent. Old persons cannot be long confined, with impunity, to bed. They are apt to fall into a typhoid state, from which they cannot be rescued. Let the surgeon, then, beware how he pursues the phantom of ossific union, to the prejudice of his patient's powers.

We will not indulge in any further observations on the paper we now quit. We recommend its facts to the attention of surgeons, and they cannot but be deemed an useful contribution to the scientific stock that previously existed.

VI. Observations on Fractures of the Bones of the Pelvis. By Henry Earle, F.R.S. President of the Society.

Fractures and dislocations of the bones of the pelvis are, as Mr. Earle observes, to be looked upon as dangerous accidents, in consequence of the injury likely to be inflicted on the pelvic viscera. Fractures of these bones are also serious, because the violence necessary to occasion the injury must have been considerable. Mr. Earle's object in offering the present paper to the Society is to throw light upon the diagnosis. We will first advert to his cases.

Case 1. A man, æt. 40, was admitted into St. Bartholomew's Hospital, in Oct. 1829, with a fracture of the pelvis, occasioned by a fall from a height of 30 feet on the left side. He had lost all control over the left lower extremity, which was everted, but not shortened. Any attempt to rotate the limb caused great pain, and was accompanied with very sensible crepitus when the hand was applied over the hip-joint. On applying the two hands to either side, with a view to compare the relative position of the trochanters with the anterior spines of the ilia, that on the left side was not nearly so prominent as that on the sound side; it appeared, indeed, nearly on a level with the anterior spine of the ilium, and could with difficulty be felt. On

pressing the trochanters the patient complained of deep-seated pain in the hip-joint. The patient was placed on a double-inclined bed, a broad leather bandage was passed round the pelvis and buckled firmly in front, and the feet were secured to the foot-board. Subsequently a bandage was applied round the upper part of the thigh, to press upon the trochanter, and to support the whole more firmly. A catheter was passed, but no injury had been sustained by the bladder or urethra. It was necessary, however, to employ the catheter for some time, as the patient could not empty his bladder without it.

The fracture went on well, and in eight weeks after the receipt of the injury, the patient was dismissed, being able to walk nearly as well as before. He died soon afterwards in St. George's Infirmary, of disease of the lungs, and an opportunity was obtained of examining the injured parts.

It was found that the fracture extended in two directions through the acetabulum; that there was an extensive comminuted fracture of the ilium, with some displacement; and that the os pubis was broken in three places. The reparation was complete, and though there was an abundant deposit of callus elsewhere, no considerable quantity was, providentially, thrown out within the acetabulum.

The second case displays no striking peculiarity. The same general symptoms existed in it as in the first, and in both the limb was slightly everted, and the trochanter not so prominent as natural. Mr. Earle's remarks are brief.

"The symptoms in both these cases very closely resembled each other; in both, the nature of the injury was the same, namely, a fall on the side. In both, the most marked symptoms were the *loss of prominence of the trochanter*, and the freedom of motion of the joint, particularly of abduction, which is always attended with the severest pain in fractures of the neck of the femur. The nature of the accident was that which most commonly produces fracture of the neck; the total loss of power over the limb, and the eversion of the foot, resembled what occurs after that accident; but there was no sensible degree of shortening, there was greater freedom of motion, and, instead of the trochanter being more elevated and prominent, as in fracture, it was below its natural level when compared with the healthy limb." 255.

We conceive that no surgeon of moderate experience, or ordinary judgment, could have taken these cases for any thing but what they were, and that there is too little similarity between their symptoms and those of fractured neck of the femur, to permit any, save a raw student, or a member of the noodle family, to commit a blunder. In these cases, there was no shortening of the limb, and the motions of rotation and general opposition must necessarily have been more free than they could be in fractured neck of the thigh-bone. Independently of this, the *great violence* rendered fracture of the os innominata probable, and fracture of that bone was distinguishable by direct examination.

The following case is interesting, physiologically as well as practically.

Case. In the Winter of 1833, Mr. Earle was called to a man between 60 and 70 years of age, who had been riding a young colt without a saddle. By a sudden start of the colt, he was forcibly thrown forwards upon the withers. He experienced very severe pain, was unable to retain his seat, and

fell from the horse. When Mr. Earle first saw him, he was lying upon a bed in a very faint, exhausted state, and appeared like a patient dying from internal hemorrhage. There was no external wound, but blood was flowing freely from his anus, and had run through the bed on to the floor. There was great flatness of the pubes, and the pelvis appeared broader than natural, allowing a greater separation of the upper part of the thighs. On placing his hand on the front of the pubes, Mr. Earle found no resistance, and over the symphisis and behind the scrotum, extending to the perinæum, there was extensive effusion of blood. Mr. Earle conceived that the ossa pubis were fractured, and apprehending effusion of urine, he carefully introduced a full-sized catheter, which, on arriving at the bulb, took a direction much to the right side, and then entered a great cavity, evidently not the bladder. Mr. E. immediately made a free incision in the perinæum, and let out a large quantity of blood and urine. On introducing his finger, he found that the symphisis pubis had been torn asunder to a great extent, and he felt a smooth projecting body, which at first he supposed to be the distended bladder; but on more accurate examination, he found it to be the internal surface of the bladder, into which his finger readily entered, and that the prominence was caused by the pressure of the intestines above. On tracing his finger over the surface, the moment he reached the trigone, the patient exclaimed that he wanted to make water. On repeating the contact of his finger with this spot, he was again most urgent to be allowed to make water. The patient lived forty hours, and, on the following day, Mr. E. again gently introduced his finger and touched the trigone, when he again was most desirous of passing water.

On examination after death, the symphisis pubis was separated to the extent of three inches, and the sacro-iliac symphysis on the left side was nearly separated, and gaped to the extent of more than an inch. The prostate gland had been torn away from the bladder, leaving a large aperture communicating directly with the cavity of that viscus. The urethra still retained its connexion with the ligament on the right side of the pubes, and the prostate gland hung loose in a cavity filled with coagulum. An extensive laceration communicated with the rectum.

Mr. Earle very properly draws attention to the necessity of examining the condition of the bladder by the catheter in every case of fracture of the pelvis. Laceration of the bladder or urethra is too common a complication of this kind of fracture. We have ourselves seen several instances of this fact, and a very serious state of things it is. Mr. Earle remarks, and the caution should be deeply impressed upon the minds of young or inexperienced surgeons:—

"I take this opportunity of strongly urging the propriety of a cautious examination of the urethra in every case of suspected fracture of the pelvis: next to extensive internal bleeding, the most alarming and certainly fatal occurrence, is effusion of urine. The former it may not be in our power to control or obviate, but the latter we may often prevent, and by timely assistance, save the patient. Whenever it is clearly ascertained that the urethra is ruptured, and the catheter cannot be passed into the bladder, it will be right at once to make a free incision in the perineum, and thus allow of a free exit for the urine. It fortunately happens in many cases that the effused blood compresses the urethra and prevents the escape of the urine, and thus time is allowed for taking the necessary steps, but should on no account be delayed.

In many doubtful cases of fracture of the pelvis, an examination with the finger per anum will enable the surgeon to detect the nature and extent of the injury." 264.

A physiological point remains. In the case which we have just related, the application of the finger to the trigone produced each time an urgent desire to make water. This is an interesting fact, and bears out completely the opinion previously entertained by many, that this was the sensitive part of the bladder, the part that operates in producing many of the physiological phenomena displayed in the excretion of the urine, and the symphathies of the bladder and the kidneys.

"It must be admitted," says our author, and with this passage we leave him, "that this opinion receives much confirmation from the well known facts, that when a catheter or other instrument is introdnced into the bladder, so as to touch this part, a distressing urgency to pass water is experienced, even when that viscus is empty, and still further by the circumstance that when a stone is in contact with this part the same urgency is experienced, which is relieved by change of posture and consequent removal of the stone from pressing on this sensitive spot. It is true that these facts have been adduced by authors favouring such an opinion as has been stated above, but in the present case I had the strongest confirmation of the peculiar sensibiltiy of this part, as I repeatedly traced my finger over the other parts, of the bladder without causing any particular uneasines, but the moment I touched the trigone the patient most urgently entreated to be allowed to make water; thus affording the strongest possible evidence of the correctness of the opinion that this portion is endued with a peculiar degree of sensibility. I was enabled also to ascertain that the mucous membrane at this part remains quite smooth when the rest of the bladder is thrown into folds." 261.

VII. CASES AND OBSERVATIONS ILLUSTRATIVE OF DIAGNOSIS WHEN ADHESIONS HAVE TAKEN PLACE IN THE PERITONEUM, WITH REMARKS UPON SOME OTHER CHANGES OF THAT MEMBRANE. By RICHARD BRIGHT, M.D. F.R.S. &c.

Dr. Bright commences with an observation highly philosophical in itself, and with which we cordially agree—that any means of improving diagnosis, whether attended with immediate apparent utility or not, must be satisfactory to the physician. We all know that a certain class of persons exist, not only in our own, but in all professions, and not only in professions, but in every class of society, who constitute the drags on the social and the intellectual wheel. These gentlemen are ever exclaiming "stop." In medicine they are especially averse to pathology—it is too methodical, too exact—too little consistent with the good old notions and the good old practice—the good old practice and the good old notions of the dogmatists and the empirics. If you shew these gentlemen that inflammation of the lungs consists in certain changes of a certain texture—if you prove to them that what they always believed to be a very common occurrence, the formation of an abscess in the pulmonary parenchyma, is really extremely rare, they shrug their shoulders, and exclaim "cui bono?" It is true that exact knowledge of the alterations in which disease consists, or which are its immediate consequences, does not tell you on the instant a new remedy, or enable you at once to cure what was formerly incurable; but it does tell you what you are

about—it does tell you when to act and when to stop—it gives precision to your practice and opinions—and it enables you to apply, with your eyes open, the remedies you formerly wielded in the dark. Would one of those gentlemen like to have his information less exact on any of his personal affairs—would he think that his management of his funded or his landed property could be made one whit the better, by his being reduced to a happy state of doubt on its precise condition? We will venture to say that he would not—we will venture to say that no man out of Bedlam could contend, as a general position, that the affairs of life are better conducted, the less definite our knowledge of what appertains to them is. In our science, much must ever be a matter of doubtful calculation. Surely what tends to diminish that doubt, must sooner or later, directly or remotely, improve the art in which uncertainty constitutes the material difficulty.

The gist of Dr. Bright's communication is contained in the following explanatory passage.

"I shall then content myself with stating, as a sufficient preface to most of the cases contained in the following communication, that I have observed on several occasions, that when the circumstances of the disease had rendered it probable *that adhesions might take place between the viscera and the peritoneum of the abdomen, a very peculiar sensation has been communicated to the touch, varying between the crepitation, produced by emphysema and the sensation derived from bending new leather in the hand.* And in each of the cases which I shall now detail, I have the opportunity of discovering, by examination after death, that such adhesions had existed in the parts where this sensation was discoverable; whereas, in no case have I observed the phenomenon, and ascertained that the particular morbid condition did not exist: so that I am led to infer the probability that the same adhesive process had taken place in those cases where no opportunity of post-mortem examination was afforded." 178.

Dr. Bright relates seven cases, with the addition of the memorandum of another supplied to him by Mr. Copland Hutchison. The cases are detailed with some prolixity, and it is quite unnecessary for us to go into their several particulars. We shall therefore select those which prove, or seem to prove, the point insisted on.

Case. A sea-faring man, æt. 42, was admitted into Guy's Hospital under the care of Dr. Bright, on the 25th of March, 1829, with ascites and anasarca. He stated that thirteen months previously he had been attacked with inflammation of the liver, succeeded by accumulation of fluid in the abdomen—that this subsided, but three months before his admission returned. Six weeks before his admission he was tapped, and seven quarts of bloody serum were drawn off, with little diminution in his apparent size.

On the 1st of April, he was again tapped by order of Dr. Bright. Four gallons and two quarts of serum, highly tinged with bile and coloured with blood, were drawn off. The abdomen rapidly filled again. On the night of the 19th, he required to be cupped for severe pain in the left side. In the beginning of May he had dysenteric symptoms. On the 19th of June he was again seized with severe pain on the right side of the abdomen; it was relieved by bleeding and calomel and opium. After this the abdominal effusion decreased.

July 8th. The abdomen, though greatly diminished and flaccid, is still projecting, and communicates to the feel the sensation of a semi-solid substance,

without fluid, *and gives to the hand an impression as if two surfaces passed over each other, with adhesions between them;* it is a *kind of crepitus.* Though quite free from pain he evidently loses strength, and his face grows thin and sallow.

Diarrhœa came on, and on the 30th the patient sank.

Sectio Cadaveris. "The body was much emaciated, the abdomen lagre, particularly in the central part, below the umbilicus. On laying open the parietes of the abdomen, not above one or two pints of serous fluid escaped. *On the lower part, and particularly below the umbilicus, and to the right side, strong adhesions had formed between the peritoneum of the parietes and a large tumour*: and on separating the attachments, which could scarcely be effected without laceration, it appeared that the tumour was a mass of fungoid substance, bearing in some parts a lobulated character, but every where soft and spongy to the feel, attached to the stomach, and descending quite to the pelvis. It was slightly glued to the viscera by adhesions, which were evidently of late formation, and were easily torn through. When the whole mass was raised, the intestines, both small and large, were found lying behind it, chiefly pressed into the upper part of the lumbar region, and under the margin of the ribs. On examining more carefully its connexions above, it was found firmly united to the right half of the large curvature of the stomach, and to the omentum, which lay as a fatty mass, not very unhealthy in appearance, over the upper part, and besides the tumour, was the only object which came into view when the abdomen was first opened. The stomach felt remarkably hard and solid over the whole of its pyloric half; and on opening it, a mass of lobulated projections was seen rising from the large curvature, filling up one-half of its cavity. The mucous membrane covering this was in part healthy; but at the apex of each lobule might be seen a depression, as if ulceration were beginning to take place; and in one part, about the centre of the mass, an oval portion, larger than a shilling, was entirely abraded. The pylorus itself was pretty free from disease.

The structure of the tumour was very peculiar. It was surrounded by an investing membrane, on which many large vessels were distributed and in some parts it felt softer and more fluid than in others, rising in these parts into semiglobular elevations. On cutting into it, the greater part was found to be composed of a fibrinous mass, not unlike the coagulum of blood; in some parts more red, in others less so, and in a few parts membranous cysts of considerable strength were found, containing bloody fluid. The whole tore easily as soon as the external membrane was divided." 182.

The intestines were drawn together by adventitious membranes. The other morbid appearances are not deserving of attention.

Before we proceed, we may observe that a stranger, a non-professional stranger we mean, reading a case of this description, would think it rather odd that a doctor should dwell on the discovery of a few unimportant adhesions between the integuments and a tumor, when the tumor itself would seem to have escaped observation. In his ignorance he would suppose that this was, indeed, to strain at a gnat and swallow a camel. And we must say it does seem singular that so large a tumor, involving the stomach so materially and so extensively, should not have been detected during life. But this is par parenthèse. We will give another case—our author's fourth.

Case."In April, 1832, I was requested to meet Dr. Pidduck and Dr. James Clark, in consultation in the case of a gentleman, who after severe illness had become the subject of ascites, which had now existed in a very decided form about two months. I need not at present enter minutely into the circumstances of the

case; it is sufficient to say that it was thought right to perform the operation of paracentesis, and above four gallons of clear, pale, straw-coloured serum were drawn off by George Babington. The operation was repeated in a fortnight, when three gallons of a fluid rather more yellow than the last came away. Two days after the second operation, I noted that a *slight sensation of crepitation was distinctly felt over the situation corresponding to the liver and omentum.* This was perceived but for two or three days, and then became indistinct.

Ten days after, seven quarts of clear fluid were drawn off, and the abdomen, though all the fluid seemed to be taken away, was not diminished to its former size, and a distinct hardness was now felt about the situation of the left lobe of the liver, which was attributed to a corrugated state of the omentum. Nearly six weeks now elapsed before the operation was repeated, when one gallon of fluid, of a light colour, was evacuated." 192.

After this operation the fluid did not re-accumulate, but in June, 1834, the patient died.

Sectio Cadaveris. The whole abdomen covered with fat, at least two inches in some parts. About two pints of fluid in the cavity. The *colon and omentum were adherent, in one mass, to the parietes of the abdomen.* The liver was lying under the ribs, concealed at first by the mass of corrugated fat, omentum, and adhesive matter. When the liver was a little drawn down, a hard and almost cartilaginous coating, with which the right lobe was covered, separated from it. The small intestines were quite free from adhesion. The liver was small, and a well-marked specimen of what is termed the "hob-nail liver."

Dr. Bright suspects that, if the adhesive inflammation could be excited in the peritoneum, even short of the extent of producing actual adhesions, the effusion of serum would be prevented. The suspicion is as ancient as the time of Sir James Earle at the very least, for it was on this very supposition that injections were used for the cure of hydrocele, a dropsy of another serous membrane.* Attempts have been made in many ways to apply this principle, or rather fact, to the cure of dropsy. A canula has been left projecting into the abdominal cavity, after the operation of paracentesis—tight bandages have been employed—nay, even injections have been proposed. These means have failed, and probably will ever fail, for two good reasons —first, the cavity in which they are used is so extensive, that they are productive of serious danger—and, secondly, the dropsy is in general the effect of organic visceral changes, beyond the reach of applications to the peritoneal surface. As Dr. Bright's speculation, then, is not new, neither, we fear, are his anticipations likely to be gratified.

Dr. Bright remarks that the crepitation, which would seem to be a symptom of abdominal adhesions, does not continue for any length of time. It appears to belong, though by no means exclusively, to some early period of the formation of adhesion, probably before the contraction of the newly-formed fibres has occurred. Our readers are now in possession of this contribution towards diagnosis, and it remains for the profession to test its general accuracy and value.

Dr. Bright concludes his paper by a sketch of the most remarkable mor-

* It is well known to surgeons, that hodrocele is occasionally cured by the injection, although no actual adhesions have occurred.

bid condition of the peritoneum, which he has observed more particularly in connexion with ascites. The study of these is calculated to exhibit the general and local signs of adhesions, independent of that particular crepitation on which we have been dwelling.

"One of the most frequent morbid changes in the peritoneum, is when the whole is covered with an equally distributed false membrane, which renders it, in its general appearance, opake, and is apt to contract the loose folds of the membrane and those by which the various viscera are suspended or attached, and likewise to form a kind of compressing ligature about all the viscera themselves; the result of which is, that the omentum gradually become shortened and corrugated, ultimately forming but a narrow band along the arch of the stomach and the colon,—the mesentry becomes shortened, and the intestines, by this means, drawn towards the spine,—the calibre of the intestines themselves becomes diminished, and they are most obviously shortened in their course,—the liver is drawn close to the diaphragm, and the spleen to the stomach,—while the kidneys are fixed more firmly into the cavities formed by the muscles of the loins,—and all these viscera are compressed in a degree which often produces alteration in their shape, and decidely interferes with the integrity of their respective functions." 196.

This false membrane is polished, and looks like peritoneum; but it is really only lymph, and admits of being stripped off in flakes.

Dr. Bright looks on this as the product of a very low stage of chronic inflammation. The only signs, he says, by which it is to be ascertained are, the general derangement of the various functions, and the circumstance, that on employing percussion while the abdomen is still full of fluid, the superior part, as the patient lies on the back, yields no hollow sound,—which is generally the case when the intestines are free to float upon the surface of the serum, but which, now that they are held back towards the spine, cannot be perceived. We should be sorry to trust to a sign so vague, that in the eye of practical philosophy it cannot be considered a sign at all. A contribution to a guess it may be—a physical sign it is not. The best sign is in the general symptoms—the slight fever—the dull pains, increased on pressure, and aggravated by active exertions—the impeded or the altered functions; and yet it must be owned that, even with great care, diagnosis is difficult, and, without great care, it is exceedingly precarious.

"This adventitious covering of the peritoneum (continues our author) has occasionally been found thickend to so great a degree as to obscure the sense of fluctuation, and convey the idea that the fluid was encysted, when in fact it has been in the peritoneum itself. I once had a case under my care, in which a female was tapped fourteen times, without suffering any untoward symptoms, the fluid re-accumulating in general very slowly, and, on one occasion, remaining so long absent, as to inspire the hope that a complete stop had been put to the effusion. When the fluid was drawn off, the general impression remained of a large empty cyst, and a hard ovarian tumour was distinctly felt rising from the left side of the pelvis; but when, after a lapse of nearly three years, she died, the diseased ovary was indeed found, but it was clearly ascertained that the fluid had been drawn from the peritoneal cavity, and so thick was the false membrane deposited on that portion which lined the parietes, that it resembled, in some parts, a layer of catilaginous matter." 198.

This case he afterwards details at length; but the abridged remarks contain the sum of its useful features. To proceed with the alterations of the peritoneum:—The deposit of adventitious matter, though frequently univer-

sally and equally distributed, is sometimes found to assume more diversity of appearance, and more particularly on the convex surfaces of the spleen and liver it is remarkable for its honey-combed arrangement; a circumstance not improbably depending upon the interruption which is received during its deposit, by the sliding of their surfaces over the neighbouring surfaces of the diaphragm or ribs, and the interrupted effort at forming adhesions to their adjacent parts.

"Many of the appearances which present themselves on the peritoneum seem to depend upon alterations taking place in this adventitious membrane, the feeble organization of which probably renders it liable to morbid changes and the development of morbid growths. Amongst these appearances is that of a carbonaceous deposit, more or less extensive, and varying in the intensity of its colour, and which I conceive to be the result of extravasation of blood into the newly-formed tissue, under some peculiar circumstances as yet not sufficiently understood;—I say, under circumstances not sufficiently understood, because we do not know even whether it be the peculiar nature of the blood, or the peculiar structure of the part into which it is effused, which (supposing it to arise from effused blood at all) gives the liability to this black or grey appearance, to which I am perhaps premature even in ascribing a carbonaceous character. This black deposit has in its appearance a striking resemblance to the black pulmonary matter formed in the tissue of the lungs; and it seems to be of the same nature as that which forms the minute speckling of gray on the internal surface of the intestines, when they have been subject to continued chronic irritations. I have likewise seen it on the membranes of the brain, in cases where death having occurred from recent effusion of blood, rendered it probable that the black appearance was the result of similar extravasation at a former period.

This gray matter is variously distributed on the peritoneum. I have seen it in patches about the lower part of that which lines the parietes, and in other parts of that portion of the membrane; I have also seen it in the pelvis, and frequently on the surface of the intestines themselves; and I shall now relate a case which has lately occurred to me, which seems to shew its connexion with an hæmorrhagic tendency most probably taking place in the newly-formed vessels of the adventitious membrane." 203.

Dr. Bright relates a case in illustration of the preceding observations. It is indeed very difficult to determine the precise cause of these black deposits. We have seen them exist concurrently in the peritoneum and the pulmonary and costal pleura; and we have seen them where there was no adventitious tissue, or mark of inflammation of the serous membranes. In a case which lately occurred at St. George's Hospital, and of the history of which we are ignorant, the peritoneum and the pleura were universally studded with small black patches, giving the membrane a speckled appearance, not unlike that of the integument of some reptiles. But in neither the pleura nor the peritoneum, were there, so far as we can remember, any signs of inflammatory action. Whether this carbonaceous deposit depends or does not on alterations of blood effused, must yet, we conceive, be looked on as a very doubtful point.

Passing over the case detailed by Dr. Bright, we proceed with his pathological remarks.

He points out the tendency to internal hæmorrhage, occasionally exhibited in cases of ascites. It often happens that where the fluid drawn in ascites has, during several operations, been quite free from blood, the suc-

ceeding operations are attended by the discharge of highly tinged serum. This condition, and that in which the serum has a deep tinge of bile are by far the most frequent, if not the only peculiarities of appearance, which the serum of the peritoneum acquires in genuine ascites, even where it is connected with much disease of a malignant character; so that, when in doubtful cases of ovarian dropsy, (cases rendered doubtful by the extent of the cyst, by the general fluctuation, and by the absence, at least during the distended state, of any perceptible secondary tumours,) we find the fluid assuming either the opake appearance of puriform matter, or a ropy consistence, or the grumous appearance of long deposited and altered blood, we may, Dr. Bright thinks, generally conclude in the absence of other proofs, that the fluid is not secreted by the peritoneum. Our author observes also, that he has never seen in the fluid of genuine ascites, that deposit of cholesterine, which Dr. Bostock has described. This appears to take place generally when the fluid has been long collected in cavities, under different circumstances of disease, and amongst these the ovarian cyst may not unfrequently be ranked. It is not unfrequently remarked in the fluid of hydrocele. We have seen the crystals more than once in the liquid removed by the trocar.

We return again to the subject of adhesions, and their diagnosis. When they exist only to a small extent, their diagnosis is mere conjecture. They may or they may not interfere with some important function. An irregular band may occasion habitual constipation or actual strangulation. Few experienced physicians or surgeons have failed at one time or other of their lives to witness an instance of this description. But we repeat that the diagnosis is little more than chance. A greater amount of adhesions afford more likelihood of giving birth to tangible signs. Dr. Bright is rather sanguine.

"But when," he says, "the adhesion has been more general between the viscera, or the convolutions of the intestines, a peculiar feeling of hardness is communicated to the touch, over a greater or less extent, which awakens in the experienced physician strong suspicion of the fact; and when this has become universal, matting the intestines into one mass, the hard, unyielding feel which is discovered, or the dough-like sensation which is felt, or the unnatural, rounded mass which fills the place of the small intestines, present almost convincing proof of the condition of the peritoneum. Should there be, in addition to this, a want of that sensation of the viscera slipping from beneath the touch which is recognized in the healthy state of these parts, the probability is, that whether the viscera adhere amongst themselves or not, they are likewise glued to the parietes; and if still further, or if without the other symptoms, that peculiar *crepitus* of which I have spoken should exist, scarcely a doubt would be left in my mind that adhesions had formed." 203.

The mode of adhesion varies very greatly with the severity of the inflammation and the constitutional peculiarity of the patient. It may be simple lymph—or formed of fine bands and meshes, resembling cellular membrane—or every variety of morbid deposit may occur in it, scrofulous matter, or that of scirrhus, or medullary sarcoma. Dr. Bright supposes, with probability, that the first kind of adhesions alone (that uncomplicated with morbid deposits) give rise to the diagnostic crepitus.

When morbid alterations of structure are deposited in the adventitious membranes, they are apt, as Dr. Bright observes, to induce a still greater degree of hardness and of solidity in the diseased portions of

the abdomen, and when they go to a great extent, present a board-like resistance to the hand, which no relaxation of the abdominal muscles can remove; and which becomes still more remarkable if the viscera are glued to the parietes, in which case we may often, as the patient becomes emaciated, discover by the feel something of the nature of the cementing deposit.

There are no doubt cases in which an accurate opinion can be formed from data of this character. But the practical man is compelled to own that the discrimination of abdominal tumors is in many instances extremely difficult, and that in a consultation the conclusions formed from manual examination are frequently as numerous as the consultants. Such is unfortunately too often the case, but we say it tends to stimulate rather than discourage. With the following additional suggestions of our author we terminate our notice of his communication. He relates one or two other cases, but we do not think they carry any additional evidence of consequence.

"It is indeed," he owns, "often totally impossible to determine, from local symptoms, whether this deposit be scrofulous and tubercular or malignant in character. Yet it sometimes happens, more particularly when, by tapping, any inflammatory action has been induced in the cellular membrane of the integuments, that they assume a character at the part where the adhesion takes place, which is by no means equivocal; and in illustration of this point, I may hereafter offer some cases, shewing that occasionally, where the internal disease has been of a malignant character, the neighbouring parietes have indicated the fact by pretty speedily becoming the seat of true scirrhous tubercles, felt like small beans or peas under the hand, and quite superficially, as I have likewise more than once had occasion to observe, on the parietes of the thorax, where malignant adhesion has taken place between the lung and the pleura costalis. When the deposit is of a tubercular character, we frequently have a granulated feel communicated to the spread hand applied over the abdomen, and we generally discover other symptoms of the tubercular diathesis by which our suspicions are awakened." 210.

When, as sometimes happens, the patient has previously exhibited elsewhere appreciable malignant disease, the diagnosis of the visceral tumor is of course facilitated. Something also may be gained by a close examination of the constitutional condition and peculiarities. This paper, like all of Dr. Bright's, is ingenious, valuable, and worthy of attention.

On Affections of the Brain.

I. On Serous Effusion from the Membranes, and into the Ventricles of the Brain, and its connexion with Apoplexy, and other Diseases of the Brain. By John Sims, M.D. &c. &c.

II. On Hypertrophy and Atrophy of the Brain. By J. Sims, M.D. &c.

III. On the Cure of Ramollissement of the Brain. By J. Sims, M.D. &c.

IV. A Relation of some Cases of Mental Derangement successfully treated by the Acetate of Morphia. By E. J. Seymour, M.D. &c.

We throw together these four papers, but not for the purpose of amalgamating them. They treat of different affections of the cerebrum, and are so far different things, but still they do treat of the cerebrum, and we therefore

place them in a connected series. We shall take them in the order in which we have arranged their titles.

The object of Dr. Sims' first paper, that on serous effusion within the cranium, appears to be to prove that what is commonly called serous apoplexy, either has no existence, or is extremely rare, and that the fluid discovered in or on the brains of those who die suddenly, is not to be regarded as the essential cause of their sudden death. This seems to be the gist of the following facts and observations.

Dr. S. sets out with the broad statement, that on dissecting the bodies of persons who have died of apoplexy, three morbid states of the brain have been more particularly noticed:—an unusually loaded state of the blood-vessels,—extravasation of blood,—effusion of serous fluid from the membranes or the ventricles. Other morbid changes have been found, as tumors, diseased blood-vessels, cysts, and so forth, but they are, to use the language of logic, the accidental modes, and the three pathological states first mentioned are regarded as the essential ones. He proceeds to observe that, while systematic authors have divided apoplexy into two species—the sanguineous and serous—and have attempted to define the symptoms and the characters of each; many practical writers have doubted the frequency of the serous variety, or denied its existence altogether. Disregarding the opinions of the older anatomists, he quotes the more modern British authors—Heberden—Cheyne—Haslam—Crowther—Mills—Cooke—Bright—and Abercrombie.

The quotations of our author exhibit a tolerably decided leaning on the part of some or of all these gentlemen against the opinion that makes serous apoplexy a common form of disease. But Dr. Sims observes in conclusion that, notwithstanding the preceding evidence, it is still a very prevalent opinion, that if a person, rather advanced in life, fall down in a fit, and suddenly expire, or survive but a short time with coma, insensibility, stertorous breathing, &c.—and that if the head of such a person be examined, and effusion to any extent be found between the membranes or in the ventricles without any extravasation of blood, the death has been occasioned by what is termed serous apoplexy. This opinion which he considers prevalent, it is the object of his paper to prove erroneous. His cases and his observations, he thinks, will lead to the conclusion, that persons dying suddenly or speedily under the circumstances mentioned above, are more likely to have suffered an attack of simple sanguineous apoplexy, or that form of the disease in which a loaded state of the blood-vessels is discovered on dissection. His cases and remarks are detailed and classified under five heads:

I. Serous effusion of the brain, or its membranes, of persons dying of various diseases not cerebral, and who had manifested no symptoms referable to the brain.

II. Serous effusion into the ventricles or membranes, to a considerable extent, in cases where old apoplectic cysts were found, with or without attendant paralysis: the patients being destroyed by disease not cerebral.

III. Serous effusion into the ventricles or membranes of unquestionably long standing, with old apoplectic cysts: the patients being destroyed by recent extravasation of blood within the cranium.

IV. Cases of simple sanguineous apoplexy.

V. Cases of serous effusion into the membranes or ventricles of old stand-

ing, with loaded, dilated, or diseased bloodvessels, frequently denominated serous apoplexy, but more properly referable to simple sanguineous apoplexy.

We now start fair. Dr. Sims' intentions are laid open to our readers, and we have only to see how he executes his task.

1. *Serous Effusion in the Brain or its Membranes in Persons dying of various Diseases not Cerebral, and who manifested no Symptoms referable to the Brain.*

It is an observation which must occur to, and is daily made by every practical physician or surgeon, that effusion, especially into the sub-arachnoid cellular tissue, is very frequently observed in the examination of dead bodies, where no cerebral symptoms existed during life. The observation we say is so common, as almost to amount to a truism. Dr. Sims gives a table containing fifty cases of persons who died of various diseases not cerebral, and who manifested no symptoms referable to the brain, but exhibited in it or in its membranes on dissection, effusion of fluid and other morbid appearances. The table itself is too long for insertion, but the following are abstracts of its most important facts.

1. Effusion of serous fluid into the cavity of the arachnoid tissue, or both, was observed in considerable quantity in nearly all the cases: in many of them several ounces were found in the ventricles.

2. A loaded or diseased state of the bloodvessels—opacity and thickening of the membranes—with other morbid states, were noticed in many of the cases.

3. The respective ages of the subjects were—

Under 10 years	4 cases.
Between 10 years and 20 years	2
20 . . . 30	8
30 . . . 40	4
40 . . . 50	5
50 . . . 60	12
60 . . . 70	10
Upwards of 70	5

It appears that between the ages of 50 and 70 nearly one half of the cases occurred.

4. Of the diseases which occasioned death, there were of—

Phthisis pulmonalis	16 cases
Disease of the heart	8
Purpura hæmorrhagica	1
Cholera	1
Carcinoma and fungoid disease of stomach, liver, kidney, &c.	9
Pneumonia	3
Peritonitis	2
Phlebitis	1
Crural phlebitis	1
Inflammation of liver and peritoneum	1
Mortification	1
Diseased bladder	1

Ulceration of intestines	3 cases.
Internal abscess	1
Scrofulous joints	1.

As Dr. Sims observes, it is not surprising that the majority of cases should be instances of phthisis, that being the disease of which most die. But Dr. Sims makes another remark, the justice of which we question, and the premises of which we do not see. Any one, he says, accustomed to pathological investigations, must have observed how very frequently (more especially in the latter periods of life) disease exists in the muscular structure of the heart, and in the mitral and tricuspid valves, without having produced any notable inconvenience, and very frequently without having been discovered during life: it would therefore appear that human life is not shortened, in many instances, by very extensively diseased states of the heart.

Dr. Sims is attached to an institution, the majority of whose inmates, as the majority of his patients, are old people. In a workhouse, it must be difficult, indeed impossible, to determine the causes of death in the middle periods of life. The very young and the very old are the tenants of the poor-house. The active and middle-aged form the patients of hospitals. In them, we can best determine whether diseases of the heart materially shorten life. We have no hesitation in expressing our opinion that they do. The majority of those who die in hospitals, between the ages of 40 and 50, die of diseased heart. Dropsy is more frequently a consequence of it than of hepatic alterations; and how fatal dropsy is, we need not tell.

It may be said that disease of the heart is found in the bodies of very old persons, and that, therefore, it cannot have materially shortened life in them. That is true, but we must not take the observation for more than it is worth. Disease of the heart is, in fact, the disease of the later periods of life—it is the usual means that Nature takes to close existence. There are comparatively few aged persons, in whom the left ventricle is not found hypertrophied, and the arteries more or less altered. Abstract these changes, and observe whether the other natural alterations would materially tend, in the majority of instances, to put out the individual. They would not. It is the changes in the circulating system, that more than any others limit the duration of existence. We cannot, therefore, agree with Dr. Sims, that life is not shortened, in many instances, by very extensively diseased states of the heart. To prove that position, it is necessary to establish that the person would have died as soon, had no disease of the heart occurred. A little reflection would shew that this is difficult. The practical physician looks on alterations of the heart with dread. It is for them that, after the middle periods of life, he looks, and looks with suspicion and with dread. What a false security there would be for him and for his patient, if he thought that extensive disease of the heart was often comparatively immaterial.

A review of the summary already given of the principal facts contained in the table, shews that the greater number of the patients in whom serous effusion was found, unaccompanied with cerebral symptoms during life, were old persons—and shews, too, that the effusion was principally seated in the cavity of the arachnoid, or the cellular tissue beneath it. Our own dissections would lead us to believe, that arachnoid effusion may be regarded as almost a natural change—in other words, that it is generally found to exist in persons advanced in life, under all varieties of circumstances. In the

number of this Journal for September, 1829, is an account of some dissections, in which arachnoid effusion was found. The cases were reported by the junior Editor of this Journal, for the purpose of showing that such effusion was probably independent of cerebral symptoms, or, in round terms, of cerebral disease. Since that time, further investigations have made suspicion amount to certainty, and have convinced us that such effusion in such cases, and, indeed, in many others, must be looked on as a common appearance, not necessarily connected with material cerebral disorder.

2. *Serous effusion into the Ventricles or Membranes to a considerable Extent, in Cases where old Apoplectic Cysts were found, with or without attendant Paralysis, the Patients being destroyed by Diseases not Cerebral.*

Four cases are related. They present little or nothing to detain us. They prove, what no well-informed man denies, that in cases of old apoplectic extravasations, or of other organic changes in the brain, patients may die from other causes, and after death serous effusion shall be found, which must have long existed, yet seems to have occasioned no special symptoms.

3. *Serous effusion into the Ventricles or Membranes of unquestionably long Standing, and old Apoplectic Cysts, with recent Extravasation of Blood which speedily destroyed Life.*

The following short case will serve for an illustration of this section Five others are related, but require no especial notice.

Case. "Thomas Dalton, æt. 50, six feet high, has amaurosis of both eyes, which is reported to be consequent on purulent opthalmia. He was admitted into the sane ward about three weeks ago. During the first part of the time he was quiet, but latterly he was occasionally boisterous, and required restraint. Early in the morning of the 7th instant, one of the medical assistants was called up to him, who found that he had suffered an apopletic seizure. Signs of approaching dissolution soon came on, he however rallied a little, and lived about thirty hours after the attack.

Inspection, 25 hours after Death. Nov. 9th, 1833. Brain.—A large quantity of fluid was discovered between the membranes, and also in the ventricles. Nearly the whole of the arachnoid lining the dura mater on the left side was covered with a layer of coagulated blood, and in a slight degree also on the right side: the layer was thicker at the posterior part of both hemispheres. One of the large veins of the pia mater was distinctly observed to have been ruptured, The vessels of the pia mater and the substance of the brain were unusually loaded with blood. The substance of the brain, particularly the grey matter, was remarkably hard, resembling soft cartilage to the knife. The optic nerves, throughout their course, appeared like flattened cords of filamentous tissue, without any of the ordinary substances of a nerve. The corpora quadrigemina were remarkably diminished in size.

Thorax.—Heart; globular hypertrophy of the left ventricle, but to a very small extent." 293.

Such cases are not rare; and all who have seen much, must have seen many of the same description.

4. *Simple Sanguineous Apoplexy.*

Dr. Sims, before entering on the details of any cases, adverts to the questions, whether hyperæmia can occur within the cranium. To this a sufficient answer can be given. Whatever be the compressibility or incompressibility

of the brain, we find in pathological investigations very various, we might say opposite, states of its sanguineous system. One brain is pale—another has its venous system loaded—another displays arterial injection. Are not these different conditions, and must not their effects on the cerebral tissue and cerebral functions suffer too? Reason would seem to say yes, and experience bears reasoning out.

If we do not admit the efficiency of sanguineous effusion to explain certain marked phenomena, how can we account for such cases as the following?

Case. "A. B. æt. 23 years, a stout, muscular young man, six feet, two inches high, very short neck, accustomed to high living, whilst reading was suddenly seized with apoplexy. He screamed out immediately on the attack, and sunk into a state of insensibility, from which he was never roused. He died in the course of a few hours.

Inspection.—Head. Scalp highly congested. Skull purple, mottled with blood. Brain: the dura mater adhered to the bone, and the superior part came off with the calvaria. There was slight serous effusion in the subarachnoid tissue, over a few of the intergyral spaces. The blood-vessels throughout the membranes and the substance of the brain were gorged with blood; a large quantity of blood flowed from the incisions made into the sinuses. No extravasation could be detected. There was a small quantity of fluid in the ventricles., and the central parts of the brain were rather soft.

Thorax.—Heart rather large, but natural in structure. The lungs were loaded with blood posteriorly. A large quantity of fluid blood was found in the trachea and ramifications of the bronchi. No laceration of the texture of the lungs or of any blood-vessel could be detected. The capacity of the thorax appeared to be encroached upon by the liver.

Abdomen.—Stomach contracted and rugous, the mucous membrane vascular. The liver was more than twice the natural size, in part from congestion, without any apparent change of texture.' 300.

We have now brought before our readers the groundwork of our author's argument—the principles and facts, armed with which he is to encounter and slay the giant prejudice of serous apoplexy. Observe what has been done. Facts have been produced to show that serous fluid exists, in very many instances, in the brain of persons who died of diseases not cerebral, and who manifested no symptoms of effusion; that fluid is often effused in great quantity in the membranes and ventricles of those persons who have previously suffered apoplexy with extravasation of blood; and that some of these persons live to the ordinary period of human life, being carried off by various disorders, and that others are destroyed by subsequent extravasation of blood in the brain. And, finally, instances of simple sanguineous apoplexy have been related. In, short, it has been fully proved, upon the one hand, that serous effusion exists without symptoms, and on the other, that symptoms are presented, when only sanguineous congestion in the brain can be discovered. Armed thus with facts and deductions, we pass to—

5. *Cases of Serous Effusion into the Ventricles or Membranes, of old Standing, with loaded, dilated, or diseased Bloodvessels, frequently termed Serous Apoplexy, but more probably referable to simple Sanguineous Apoplexy.*

Five cases are detailed in illustration of this section. We shall take one as a sample of the whole.

Case.—*Copious Effusion into the Ventricles—Great Congestion of Blood-vessels—old Cysts—Atrophy of the Brain.*

William Parker, æt. 62. He suffered an apoplectic fit late in the evening of Aug, 4th, 1834. His face was drawn to the left side; there was paralysis of the right arm and leg. His intellect had become impaired, and he had been confined to bed three or four months past. He has dragged his right leg for twenty years. He lived about 24 hours after the attack.

Inspection, Aug. 6th, ten hours after Death,—Head: Brain. Dura mater was tough, and there were opaque spots on the arachnoid. The bloodvessels were very considerably loaded. There were two cysts of old standing on the superior suface of the right hemisphere, as large as a walnut; the lining was fawn-coloured, and they contained fluid: these cysts did not touch upon the central parts of the hemisphere. A similar cyst existed in the centre of the left hemisphere; the corpora striata and thalami were entire, and appeared healthy. On the surface of the right lobe of the cerebellum there were small remains of an old extravasation. The ventricles were very large, and contained several ounces of fluid. The brain appeared much diminished: weight 2 lbs. 6 oz.

Such are the principal facts upon which Dr. Sims grounds his opinions Of those opinions, the following is offered as a final summary. Prior to presenting it, he guards himself against the imputation of denying the existence of serous apoplexy altogether: and he does not extend his views to that form of inflammation of the brain in children or adults, termed hydrocephalus acutus—in which a collection of fluid in the ventricles constitutes one of the pathological conditions observed upon dissection. This being premised, we proceed to state the inferences of Dr. Sims—

" 1st. That very copious effusion of serous fluid is found between the membranes and in the brain of persons of all ages, more especially between the ages of fifty and seventy years, who have died of various diseases of the thorax and abdomen, and who manifested no appreciable symptom of cerebral disease during life. That under similar circumstances, various other morbid appearances are found in the brain, as thickened membranes, diseased bloodvessels, tumours, &c. That these several morbid states of the brain did not occasion the death of such persons.

2dly, That effusion of serous fluid into the ventricles and membranes, to a very considerable extent, exists in the brain of persons who have suffered previous apopletic attacks, attended with paralysis and general or partial atrophy of the brain. That, most probably, this effusion and atrophy have existed for many years, without producing the disease termed serous apoplexy: that persons so circumstanced live to an advanced age, and are destroyed by other maladies.

3dly. That in persons whose brain has long contained a large quantity of fluid, with or without any trace of previous apoplectic extravasion, and who have suffered a first attack or a subsequent attack of fatal apoplexy, it is probable that the brain, from this cause, is rendered less impatient of injury from extravasation or blood. This position is exemplified in a remarkable manner in Case VI. of extravasation into the ventricles, and in Case X., of extravasation on the surface of the brain.

4thly. That a loaded state of the bloodvessels is sufficient to produce all the symptoms of sanguineous apoplexy, and to occasion death without extravasation. it is probable that, when this state of the vessels is found connected with only a small quantity of fluid, in the membranes or ventricles, that death ha

been occasioned by simple sanguineous apoplexy. That convulsions in children arise in general from cerebral congestion, and are essentially cases of sanguineous apoplexy.

5thly. The conclusion is highly probable, that in very many instances of sudden or speedy death, which have been supposed to be occasioned by the presence of serous fluid, discovered on dissection in the membranes or ventricles, death is not attributable to this fluid, or to serous apoplexy; but the inference is not much more reasonable, that these cases may be referred to simple sanguineous apoplexy, the fluid in the brain having nothing to do with the fatal event." 314.

We have laid a fair and sufficiently detailed account of the views of Dr. Sims before our readers. They occupy fifty pages of the Society's volume of Transactions, and must, therefore, be considered by himself as calculated to engage and to merit attention. He modestly informs us, in the prefatory observations, that his paper is intended to illustrate and confirm the opinions of others. This is not only modest, but true—the paper is calculated chiefly for this. There is in it little novelty of facts or of deduction—little which has not been said before—little, indeed, which cannot be found in the latest and best elementary treatises. The opinions enforced by Dr. Sims will be found expressed, with more or less distinctness, by Dr. Abercrombie, Cruveilhier, the Editor of this Journal and by many others.

We were curious to see what was said by the latest systematic writers and we referred to that admirable Dictionary of Dr. Copland, which more, perhaps, than any other work in medicine, embodies the opinions of the best authors and the best physicians. In the article upon the simple form of apoplexy, contained in the Dictionary to which we have alluded, we find the following remarks upon serous effusion.

"Serous effusion, in those cases in which it constitutes *even the chief lesion*, cannot be viewed in any other light than in that of a result of pre-existing disturbance of the circulation, depending, as will be more fully alluded to in the sequel, either upon imperfect vital tonicity or action of the vessels, or upon obstructed circulation, especially in the veins and sinuses of the organ, or even upon both. Another circumstance, well deserving of notice, and evincing that the serous effusion is of itself to be viewed as merely a part, and, indeed, no very important part, of the existing lesions, although the most demonstrable, is the fact also insisted on by Dr. Abercrombie, that the quantity of fluid effused bears no proportion to the degree of the apoplectic symptoms: for we find it in large quantity when the symptoms have been slight; in small quantity when they have been both strongly marked and long continued: and, finally, we find most extensive effusion in the head, where there have been no apoplectic symptoms at all. The inference, therefore, clearly deducible from the most faithfully observed facts, is, that the effusion is not the cause of the apoplectic seizure, but the consequence of that sate of circulation on which the disease more immediately depends. Indeed, I am even of opinion that a considerable portion of the effusion takes place either immediately before death, or soon after life is extinct; and that several cases referred to serous effusion have not arisen from this cause, the quantity of serum having evidently not been greater than we have reason to believe naturally exists in the head, as necessary to the regularity of its functions, under the varying states of circulation, and of atmospheric pressure on the surface of the body, from which the unyielding bones of the cranium protect it." 81.

Dr. Copland expresses, in the preceding passages, not merely his own sentiments, but those of Abercrombie, of Cruveilhier, of the Editor of this

Journal, and of many others. As Dr. Sims remarks, his paper tends to give to those opinions additional strength. Facts in medicine are always useful, even when they prove a point already proven. For few truths are so established as to derive no confirmation from additional investigations. But, in the present instance, some doubts existed in the minds of those unused to pathological researches; and erroneous notions on the subject of serous effusion are unquestionably entertained by ill informed persons. Dr. Sims may, therefore, justly lay claim to the merit of illustrating and elucidating opinions, not yet so generally admitted as they should be.

II. On Hypertrophy and Atrophy of the Brain. By John Sims. M. D.

This, the second paper contributed by Dr. Sims occupies sixty-seven pages of the volume. Its principal portion is dedicated to the subject of hypertrophy, which is made by our author his cheval-de-bataille.

The Continental pathologists have lately drawn attention to the occurrence of what seems to be hypertrophy of the substance of the brain. The observations of British physicians have certainly not been numerous nor extensive. Dr. Copland, in his Dictionary of Practical Medicine, refers to the chief authorities upon the subject, and Dr. Sims apppears to have followed in Dr. Copland's wake, quoting the same authors, and nearly the ssme passages. As in the preceding paper, on Serous Effusion, Dr. Sims appears to be actuated by the very praiseworthy intention of illustrating the opinions of others. The present paper may be viewed as an attempt to bring the views of those who have written on the subject of cerebral hypertrophy, more fully than has yet been done before the profession in this country. The article is too long; but we shall give a connected and sufficient account of it. As it does not contain much novelty, it does not appear to require an extended notice, yet its facts are not unworthy of attention.

Dr. Sims uses the term hypertrophy of the brain as referable to two states; one consisting in simple enlargement, the other where a change of texture in the cerebral substance exists. The following is the plan pursued by Dr. Sims in the construction of his paper. He proceeds, in the first place, to give a very short report of the opinions of a few authors who have written on the subject:—2. To relate the histories of several cases of hypertrophy which have fallen under his observation. 3. To attempt to ascertain the average weight of the brain of persons of all ages, from a very lage number of cases in which the brain has been weighed. 4. To give short notices of a number of brains which exceeded the average weight, from various causes, but which scarcely come under the description of hypertrophy. 5. To relate the histories of several cases of hypertrophy of the brain, both general and partial. 6. In conclusion, to draw such inferences as the facts and observations, detailed in the paper, appear to warrant. The historical sketch we may omit, as our readers may either consult the paper itself, or, what is equally good, the article on Hypertrophy of the Brain, in Dr. Copland's Dictionary of Medicine. The latter has more of the merit of conciseness.

Dr. Sims details twelve cases of general hypertrophy of the brain, and three of partial hypertrophy of that organ.

CASE 1.—*Hypertrophy of the Brain—Death from Enteritis.*

A. B. æt. 16. She died from inflammation of the bowels. But she had a very large head, and was thought to have been hydrocephalic. She was subject to some kind of fits until she was seven years old: the catamenia appeared at fourteen: she had an enormous appetite; there was no paralysis, but a very great weakness of all her limbs; she complained much of giddiness, and had a bad memory; she had a difficulty in learning and performing the ordinary mechanical arts of her sex, as sewing, &c. During her last illness, there were no cerebral symptoms.

Dissection. The head appeared to be twice the ordinary size. The hands were very small. Ossification of the cranium complete. Brain: the arachnoid was much thickened by the deposition of slighty opaque lymph on the upper parts of both hemispheres. The cerebrum was very firm to the knife, and presented no unusual appearance except its enormous size: the quantity of brain appeared to be double that of a person of her age. The cerebellum did not partake of the enlargement. The ventricles contained only from two to three ounces of clear fluid. The cranium was not measured, nor the brain weighed. In this instance the brain was simply enlarged, without appreciable alteration of structure.

CASE 2.—*Hypertrophy of the Brain—Death from Extravasation of Blood into one of the Crura Cerebri.*

Martha Lock, æt. 40. had been in the infirmary four years, when she fell to the care of Dr. Sims. She has for several years suffered at intervals severe paroxysms of pain referable to the pyloric end of the stomach and duodenum, accompanied with vomiting of large quantities of thin mucous and green bilious fluid, amounting to many pints during the paroxysm. The paroxysm is also attended with the most intense headhache. Her sufferings have been sometimes so great as to deprive her of reason for a time, and at others to produce a state of coma. In one of the attacks she bit her tongue nearly half across, and more than once attempted to destroy herself in order to put an end to her agony.

June 8, 1832. For the last three days she has been suffering a paroxysm of very great severity, attended with violent convulsive agitation, and vomiting of dark green fluids, with constant purging. She had two fits of an epileptic character yesterday, and three this morning. She died suddenly about one, p. m.

"*Inspection, 24 hours after Death.*—Head. A considerable quantity of blood escaped on dividing the skull. On removing the calvaria the dura mater was remarkably distended, and appeared protruding as from pressure within. The convolutions were much flattened and their divisions almost obliterated. The medullary matter was throughout of a dead or flake-white colour; scarcely any red points appearing in the sections made of the bloodvessels ramifying through it. The substance of the brain appeared to be much increased in firmness and in bulk. The membranes were very dry, and the pia mater adhered very firmly to the surface of the brain. The ventricles were contracted in size, and contained no fluid. In the right crus cerebri, which was in some slight degree softend, there was a small clot of recently extravasated blood, the size of a pea. A small body, very much resembling an enlarged absorbent gland in any other part of the body, was found in the arachnoid near the basilar artery. Cerebellum natural. The brain was not weighed." 330.

The left ventricle of the heart was hypertrophied—the mucous membrane and pyloric valve of the stomach were thickened—and the mucous membrane of the upper part of the small intestines was in a highly vascular condition.

Case 3. *Hypertrophy of the Brain—Convulsions—Stertor, &c.*

Joseph Trendal, æt. 22, admitted March 8th, 1833, shortly after having taken much mercury for syphilis. He was reported insane, but when visited he was quite rational, although unable to control the spasmodic motions of the muscles at his extremities, which were thrown about and much distorted. Cupping, and other depleting measures, brought him into a quiet state; and he expressed himself as feeling much better. On the evening of the 9th he was suddenly seized with a fit resembling epilepsy, which soon however assumed a confirmed apoplectic character, attended with a complete insensibility, stertorous breathing, and general convulsions. He died the following evening.

Dissection, 43 hours after Death. Brain. The convolutions were much flattened, and closely pressed together. The bloodvessels were almost entirely empty. The membranes were quite dry, and the ventricles appeared to be almost obliterated, and would scarcely contain a dram. The structure of the brain was generally hard, firm, and of a pinkish hue. It weighed 3lbs. 9oz.

Case 4.—*Hypertrophy of the Brain—Pulmonary Tubercles—Enlargement of the Heart—Sudden Death.*

James Tipton, æt. 40, admitted Dec. 31. He has cough, dyspnœa, purulent expectoration, and diarrhœa. He died rather suddenly, after rising from bed.

Inspection, Jan. 8, fifteen hours after Death—Head. There was a considerable quantity of fluid in the cavity of the arachnoid, and in the subarachnoid tissue. There were two large bladders on the superior margin of each hemisphere, which seemed to have broken down the filamentous tissue between the pia mater and arachnoid. The brain was remarkably turgid with blood, was firm, and cut like ground-rice pudding. Weight 3lbs. 7oz.

Thorax.—The lungs were studded thoughout with tubercles, and there were small cavities in different parts of the lungs. Heart large with considerable dilatation of right ventricle.

In the next case, the patient, aged 24, died of phthisis, but complained of headheache, and was delirious for the four days preceding death. The brain weighed 3lbs. 5oz.; its convolutions were flattened, and there was ramollissement of the centre of the posterior lobes of the cerebellum.

In the sixth case, the patient, aged 70, while in her ordinary state of health, died suddenly. There was some fluid in the sub-arachnoid tissue—the brain weighed 2lbs. 15oz.—and the medullary substance of the brain was very white and cut like hardenend custard. The heart was remarkably flaccid.

In the seventh case, the patient, æt. 29, had dropsy from diseased kidney, She died from diffuse inflammation of the face. The brain was very dense, its convolutions flattened, and its weight 3lbs. 2oz.

In Case 8, a woman, æt. 48, died in twenty-six hours of malignant

cholera. The cerebral bloodvessels were full—the roof of the right ventricle adhered to the corpus striatum—the brain weighed 3lbs. 5oz., and, when cut into, resembled coagulated albumen, with a quantity of plaster of Paris mixed with it.

Case 9. "Dec. 14,1832. I was requested by Mr. Jorden, of Belgrave Street, to accompany him to examine the body of Caroline Bays, a child, aged eleven months. I received from him the following particulars of the child's history. Her head was observed to increase in size in an unusual degree about six weeks after birth: the general health was good until about three days ago, when she became feverish, with rapid pulse and constipated bowels. At this time the head was much enlarged, the forehead being remarkably prominent; the fontanels enlarged, firm, and tense to the touch; superficial veins enlarged; the eyes were generally fixed in a downward direction, more especially the left. The child was constantly moaning, and rolling its head from side to side and tossing its hands about. Convulsive twitchings latterly came on. The mother has had four children, all of whom died either a few days or weeks after birth. Leeches, cold lotions, and purgatives were used without effect.

Inspection, eight hours after Death.—Head. The fontanels were large, sunk, and flaccid: cranium of rather unusual thickness. The circumference of the cranium, after removing the integuments, at the largest axis measured seventeen inches and a half, and from one meatus auditorius internus, over the vertex to the other, twelve inches. The membranes and substance of the brain were bloodless. The brain was very much enlarged, and its consistence rather softer than usual. The ventricles contained about one ounce of fluid." 341.

In Case 10, the patient, ten years old, died of cholera, having been previously quite healthy and intelligent. The convolutions of the brain were flattened—the grey matter was soft, the medullary matter very white, the substance of the brain cut like blanc-mange, or thick custard, and its weight was 2lbs. 14oz.

In Case 11, a child, æt. 3, died of pneumonia after hooping-cough. She was insensible, with coma and occasional convulsions for the last 24 hours. On inspection, the signs of hypertrophy, with excessive fulness of all the veins and sinuses of the brain. The latter organ weighed 2lbs. 15oz.

In Case 12, a girl died of malignant cholera. The brain was enormously enlarged, weighing 3lbs. 12oz.

Such are the cases of general hypertrophy of the brain, brought forward by Dr. Sims. The majority we have greatly abridged, but we have inserted the leading and most important particulars. Three cases of "partial hyperthrophy" follow: Dr. Sims observing that it is frequently found that parts of the brain are enlarged beyond their ordinary size, either originally or in after-periods of life.

CASE 13. *Hypertrophy of one Hemisphere—Old Apoplectic Cysts.*

"Esther Walters, æt. 60. She is reported to have had a paralytic attack about two years ago, from which she was much relieved. She continued to move about until within ten days of her admission. Signs of arachnitis came on with coma, and she died June 21st.

Inspection.—Head. The left hemisphere occupied about two-thirds of the space allotted to the cerebrum. The left corpus striatum was enlarged to twice its usual size; the right corpus striatum was diminished in size. There were two apoplectic cysts in the left hemisphere and one in the right of different dates." 347.

In Case 14, that of a lunatic for twenty years with lucid intervals, the skull was very hard—much arachnoid effusion—the corpora striata unusually approximated—right corpus striatum twice its ordinary size—left slightly enlarged—left thalamus much enlarged—tuber annulare half as large again as usual—crura cerebri enlarged.

In Case 15, that of a post-boy, æt. 29, who died of delirium tremens, the posterior lobes of the cerebrum are said to have been greatly enlarged. The brain weighed 3lbs. 8ozs.

We are now prepared to listen to the conclusions of our author. We have seen the data, at all events the chief of them, on which his opinions are principally founded, by which he wishes them, we presume, to be determined. Let us then listen to Dr. Sims.

"The state of the brain" he says, "which I have described admits of division into two kinds; one, a state of mere enlargement or addition of particles, without any appreciable or apparent difference from the ordinary state of the organ; this appears to be connate, or connected with rickets, manifesting itself very early, and attaining in some instances a very great magnitude. In the other and most important form of hypertrophy, the weight of the brain is sometimes very materially increased; but in this case it is not of so much value as the bloodless state of the brain, its freedom from serous effusion, its very white and albuminous texture, and the flattening of the convolutions, &c., which I have so often noted.

If we could ascertain with some degree of accuracy the average weight of the healthy brain at various periods of life, we should then be able to estimate more nearly the extent of hypertrophy, so far as the circumstance of weight is concerned; but almost all the attempts that have hitherto been made have been ineffectual and liable to error. The method to fix the weight of the brain on a scale, comparing it with the weight of the body, does not remove the difficulty, for some very thin subjects, exhausted by wasting diseases, have brains above the average weight, and it is well known that some of the heaviest bodies possess very small brains.

Haller states that in one child, a boy of six years old, he found the brain to weigh 2lbs. 28 1-2 drams, the weight of the body being 50lbs. or about 1-22:—in other instances he found the weight of the brain to be 1-25, and 1-30 the weight of the body. He further observes, 'Homini cerebrum aliquando libram cum semisse in adulto homine non superavit: alias fuit trium l., et trium l.. atque 8 unciarum cum 1-4, et quatuor librarum; quatuor porro et unciarum trium; quatuor et unciarum tantumdem, quatuor ad quinque; quinque denique et ultra.'*

Soemmering, in the section 'Pondus Cerebri,' remarks, 'Cerebrum et cerebellum, resecta medulla spinali statim pone nervum lingualem medium, pondo sunt librarum duarum, ad tres libras, sunt enim alia cerebra pondere librarum duarum, et unciarum quinque cum dimidia, alia librarum trium et unciarum trium cum tribus quartis.'† His 'Tabula Baseos Encephali' is taken from a child three years old.

The Wenzels, in their great work on the structure of the brain, state, 'Pondus encephali humani quale id de quinto vitæ anno ad summam usque hominis senectutem plerumque invenitur, pondus viginti quatuor millium granorum non superat.' Again, 'Tabula cerebri pondus interviginti et viginti-duo millia gra-

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* Elementa Physiologiæ, Tom. IV., p. 10.

† De. Corp. Hum. fabrica, Tom. IV. p. 38.

norum plerumque variat.'* They give a table of the weight of nineteen brains of various ages, from a fœtus of five months up to old age, 88 years.

Sir William Hamilton has taken great pains to ascertain the weight of the brain, and concludes, 'that the adult male encephalos is heavier than the female; the former nearly averaging, in the Scot's head, 3lbs. 8oz. troy, the latter 3lbs. 4oz., the difference 4oz. In the male, about one brain in seven is found above 4lbs. troy; in the female hardly one in a hundred.' Sir William founds this and other conclusions, 'on an induction drawn from above *sixty human brains*,—from nearly *three hundred human skulls*, of determined sex, the capacity of which, by a method I devised, was taken in sand, and *the original weight of the brain* thus recovered.'† I think the weight of the brain cannot be fixed by ascertaining the capacity of the skull, by any means however accurate; it is open to a source of fallacy, which appears obvious on inspecting the last column of Table I." 352.

Dr. Sims has endeavoured to ascertain the weight of the brain in a great number of dissections of persons of all ages and both sexes, who died of diseases of almost every description, whether cerebral or otherwise: in some the brain was healthy, in others diseased in different degrees and forms. He presents a table taken from 253 dissections of the brain. The weight used is avoirdupois, and the weight of the whole encephalon is taken, the dura mater being removed. The sex, age, disease producing death, and weight of the brain, are the things specified; and a notice is added of whatever might influence the weight.

The various Tables appended by our author are too voluminous for insertion here, and we must therefore confine ourselves to the results. Such of our readers as would have all the data before them must refer to the volume of the Society's Transactions. Prior, however, to stating the results, we find we must advert to atrophy of the brain.

In persons of advanced life, the brain is frequently noticed to undergo a marked diminution in magnitude. In young persons, too, who have suffered from long-continued wasting diseases, the brain has suffered a general wasting in all its parts, both grey and white.

"The marks by which this state of wasting may be known are, a particular collapse or shrinking together of the convolutions when the horizontal section is made, so as to cause the white matter to appear depressed, and not to present the even surface observed in a firm and healthy brain;—a quantity of serous fluid may be squeezed out of the interstitial tissue of the brain;—a stringiness of the substance, arising from the absorption of the pulpy matter, and the probable thickening of the filamentous tissue;‡ flaccidity of the brain in some instances; a dilated state of the blood-vessels, whether empty or filled with blood; the presence of serous fluids in the ventricles or membranes, and hypertrophy of the bones of the skull.

In partial hypertrophy we sometimes observe one hemisphere of the cerebrum to be very much less than its fellow; one lobe of the cerebellum also to be diminished in comparison with the other; sometimes parts of the grey matter covering the convolutions are dwindled. Very frequent instances of partial atrophy are met with in the corpora striata and in the thalami. The natural

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* J. et C. Wenzel, De Penitiori Structura Cerebri, p. 267.

† The Anatomy of the Brain, &c., by Dr. Monro, 1831, p. 4.

‡ Dr. Baillie has remarked that the brain is sometimes tougher and more elastic than usual, and that under these circumstances the ventricles were enlarged in size and full of water.—*Morbid Anatomy*, p. 434.

rounded form of the corpus striatum is rendered much flatter, and there are often furrows in it; the extent of its surface which appears in the ventricle is much contracted, and on cutting into it, the grey matter appears loose, and holes are frequently observed. The thalami are sometimes much wasted, the contiguous sides are widely separated, and instead of the perpendicular line of the lateral face of these bodies, it appears scooped or hollowed out; their rounded or upper surface is either flat or hollowed, and the ventricular margin presents a ridge instead of the usual convexity. One of the thalami, or one of the corpora striata, is sometimes atrophied, whilst its fellow retains its normal state, or is hypertrophied." 366.

Dr. Sims thinks that the blunted feelings, loss of memory, impaired movements, &c. of old persons may be accounted symptoms of cerebral atrophy. He even goes so far as to suppose that the muscular weakness and general emaciation of phthisis may in some degree depend on wasting of the brain. This is, as Trim says of my Uncle Toby, somewhat hobby-horsical. Blunted feelings, impaired movements, and so forth, are the common accompaniments of old age; no octogenarian but exhibits one or all more or less. But even Dr. Sims does not, we suppose, contend that all old people suffer from atrophy of the brain. Nay, he cannot, because he is bound to provide for hypertrophy, which is also discovered to be frequent. In phthisis, too, emaciation always occurs, but we do not conceive that, common as atrophy may be, it is invariable. Indeed, some persons, considering the great expectoration, the night-sweats, the diarrhœa, might look on atrophy as caused by the emaciation or by what occasions it—not on the emaciation as resulting from the atrophy. Yet it is pleasant to see with what strides pathological knowledge marches on. It was but yesterday that people stared when cerebral hypertrophy or atrophy was talked of—to-day we find them both as plenty as blackberries. But of this anon.

The chasm, continues Dr. Sims, occasioned by the atrophied state of the brain, we observe to be sometimes filled up by serous fluid, and by deposits of bone on the skull: and the opinion is highly probable, that this excess of fluid and of bone is placed there to supply the deficiency. If the brain wastes, it is quite clear that something must be placed in the unyielding cranial cavity instead of it. It may be hard in some cases to determine whether the atrophy of the brain gives rise to the serous effusion and the osseous depositions, or whether the latter have been the causes of the atrophy.

Dr. Sims presents the details of four cases, and notices of twelve others, in which more or less atrophy of the brain existed. We will extract the first and the third cases.

Case. E. Burgess, æt. 70. About four months ago he was seized with apoplexy, attended with hemiplegia of right side, and loss of speech. Since the attack he has never recovered the use of the paralysed side, but he has had occasional variations of sensation and motion. He soon shewed signs of childishness, which increased nearly to fatuity. He made frequent attempts to speak, and sometimes he succeeded in uttering a word or two.

Inspection, Jan. 13, 1835, *ten hours after death.* Head.—The cranium was thickened by a deposition on the inside of the os frontis, so as to diminish the capacity of the frontal region of the cavity: the corresponding parts

of the anterior lobes of the cerebrum were diminished in size and flattened. There was considerable opacity of the membranes, and effusion into the ventricles and membranes. The right corpus striatum was flaccid and shrivelled, and of a reddish-brown colour. Both the thalami were atrophied to about half their natural size. The remains of an apoplectic cyst were found in the left corpus striatum. Weight of the brain, 2lbs. 4oz.

Dr. Sims thinks, and probably with justice, that the wasting of the brain began at the time of the apoplectic attack, and that as it advanced the fatuity became established.

Case. Jane Hackett, æt. 41, admitted in the last stage of exhaustion from pulmonary tubercles. She had slight diarrhœa, which was easily checked; and was greatly emaciated. She had no head symptoms.

Inspection, forty-four hours after death, May 12. Head.—Cranium hypertrophied, in front especially, but also over the whole calvaria. Three ounces of fluid were found in the ventricles, and a very large quantity in the membranes, in some parts of a dusky colour. The vessels of the membranes were dilated, and those of the brain highly congested. The substance was soft from interstitial fluid, otherwise it was natural. Weight, 2lbs. 14oz.

The lungs were extensively tuberculated.

We think we may omit the notices of instances of atrophy of the brain. In some cases there were symptoms referable to cerebral affection, in others there were none. Examples enough of hypertrophy and of atrophy have been presented to enable us to follow our laborious author in his inferences and conclusions. Those conclusions we must present entire; they cannot be abridged.

"1. From the short historical sketch it appears that pathological writers have hitherto had a very imperfect knowledge of the phenomena connected with hypertrophy of the brain. M. Laennec did not observe the peculiar changes of structure which the brain presents in this affection. Scoutetten notices the greater consistence of the brain. Dance is the first to take much notice of the change of texture, though in his definition he limits the change to a mere addition of molecules. Portal, Otto, and Andral, have added several facts. British pathologists afford but faint indications of an acquaintance with the affection.

2. That cases of hypertrophy of the brain are met with where no change of texture can be discovered, and the enormous size of these brains arises from the mere addition of similar particles.

3. That cases of hypertrophy occur, in which, added to the increased size of the brain, there is a change in the texture of the brain, which has been described as resembling boiled albumen, ground rice-pudding, cream, cheese, &c.; a flattening of the convolutions; little or no blood or serous fluid in the vessels, cavities, or membranes of the brain. That this state of the brain is of a more acute character, and is probably produced more or less rapidly by any causes that excite the brain or its blood-vessels, or that increase general or partial nutrition.

4. That hypertrophy is allied to or connected with apoplectic seizures, either as a precursor, a concomitant, or a cause: that in this state of the brain, simple sanguineous apoplexy may be more readily induced, or life may be destroyed by a very small clot of extravasated blood.

I have no doubt that in the dissection of apoplectic brains, many cases of

hypertrophy have been entirely overlooked, and the brain has been reported as normal; now, believing that I am correct on this point, I take the liberty of impressing on the minds of medical practitioners the further investigation of this subject, in consequence of its obvious bearing on the practical treatment of apoplexy and other diseases of the brain.

5. That extensive disorganization of the heart and lungs may impede the return of blood from the brain, or so obstruct its circulation as probably to occasion hypertrophy, or enlargement of the brain.

6. It is probable, that in cases of sudden death which on dissection have been attributed to a flaccid state of the heart, angina pectoris, spasm of the heart, &c. hypertrophy of the brain, causing simple sanguineous apoplexy, though unnoticed, may have been the sole cause of death.

7. That in brains that are hypertrophied, both children and adults are sometimes destroyed by active inflammation of the brain, terminating in ramollissement: and also that this affection is frequently connected with the more slow form of ramollissement in adults, whether arising from inflammation or not.

8. That in some children who, from the size of the head, are suspected to be suffering under hydrocephalus internus, or the disease terminating in the deposition of fluid in the ventricles, it is highly probable that the brain is in a state of hypertrophy.

9. That the brain is sometimes affected partially by hypertrophy, either of one hemisphere, one lobe, or of the corpora striata or thalami.

10. That hypertrophy is confined to the cerebrum; the cerebellum is not so affected.

11. From an extensive series of observations, it appears that the average weight of the brain goes on increasing from 1 year old to 20; between 20 and 30 there is a slight decrease in the average; that afterwards it increases, and arrives at the maximum between 40 and 50; that after 50 to old age, the brain gradually decreases in weight.

12. That the brain is sometimes unusually large, not amounting to hypertrophy, in persons dying of various diseases, especially in extensive pneumonia, and other diseases of the lungs and heart; and in these cases the brain is generally very much loaded with blood.

13. That the brain in the advanced periods of life, and in some diseases, is diminished in volume or atrophied, either generally or partially; and that there are certain marks observed in dissection, by which this state of the brain may be known. It is also probable thht there are symptoms occurring during life, indicating atrophy of the brain.

14. That in phthisis pulmonalis, diseases of the stomach, and other emaciating disorders, the brain also sometimes undergoes a process of wasting.

15. That in cases of atrophy of the brain, the place previously occupied by cerebral substance is supplied by serous fluid, or by deposition of bone; and this deposit of bone frequently takes place on the inner surface of the cranium, sometimes in the diploe.

16. That the cerebellum is subject to atrophy, as well as the cerebrum." 380

On reverting to his facts, and casting an attentive glance at his conclusions, it is impossible, and it would be wrong to attempt, to deny to Dr. Sims the merits of industry and ingenuity. It is obvious that he has toiled more than any pathologist in this country, to improve our acquaintance with the nature of hypertrophy and atrophy of the brain. How he has succeeded is another question, and will probably be determined in different ways by different inquirers. For our own parts, we must say that we think he has thrown *some* degree of light upon the curious affections he has investigated, though we cannot go so far as he goes in the inferences that he draws from his observations. It is singular, indeed, that what was generally considered,

to this moment, an obscure, a rare, and a dubious alteration, should now, if the observations of Dr. Sims be correct, appear in the light of an every-day occurrence. It was but yesterday that the mention of the name—hypertrophy of the brain, was certain to excite an incredulous smile; now we have cases plenty as blackberries, and, did we accede to the views of Dr. Sims, it is continually occurring and continually overlooked.

We know not what to say: on the one hand, the detailed cases of hypertrophy appear to shew that such a thing is—on the other, reasoning raises plausible objections to its history. From the account of Dr. Sims, hypertrophy of the brain would seem to occur at all periods of life. In advanced age, we do not understand how it is possible for the cranium to enlarge. So soon as several of the sutures are united, augmentation of the bulk of the cranial cavity would appear to be impossible. The only increase of its size can be effected by the partial absorption of the cranial bones. An actual increase of bulk of the cerebrum would appear unattainable in middle and in after-life. To this we presume it will be answered, that though the periphery of the brain may not enlarge, yet fresh molecular deposition may occur at the expense of the removeable contents of the cranium—the blood and serous fluid. In proof of this, the advocates of hypertrophy would refer to the flattened convolutions, the bloodless condition of the cerebrum, the paucity of serum in its ventricles, and on its surface. Yet again the cautious pathologist hesitates. We know how various the conditions of the brain are, when apparently its functions were performed aright. There is no certain standard by which to determine what is, or what is not, a natural condition of brain. Any marked deviation is discernible, and may be allowed—but any deviation that is not marked, is too vague to furnish to the philosophical inquirer unquestionable or satisfactory data. How, then, are we to judge of hypertrophy? By the common evidence of common sense? That is very difficult. By the standard of averages? That is not yet clear. Averages presuppose extensive observations. Great as has been the industry of Dr. Sims, we cannot consider his observations sufficiently extensive.

If we turn to symptoms, the same uncertainty surrounds us. One patient dies with marked cerebral symptoms—hypertrophy is found upon dissection, and cause and effect seem plainly brought before us. But another patient dies, who never has exhibited cerebral symptoms at all, and again we find hypertrophy. What are we to say? The cautious reasoner is staggered, and he pauses for further information.

Dr. Sims, indeed, is sanguine. He does not appear to feel the difficulties we have pointed out. When symptoms existed, he is satisfied with the explanation that hypertrophy presents—when no symptoms were present, he is, or seems to be, satisfied still. For our own parts, we repeat, we know not what to say. Mr. Boswell used to observe to Dr. Johnson—"What won't fill a quart-pot will fill a pint." We should be sorry to arrogate bulk of any description to ourselves, but really our author on this occasion, represents the pint-pot, and we are swollen to the dropsical dimensions of the quart. The evidence does not half fill us.

That the brain wastes, especially in old age, is probable in itself, and, what is better, is demonstrable. But, as the brain wastes, something in the cranial cavity must supply its place, and that something is generally serous

effusion. In many instances, it must be very doubtful which of these organic lesions is cause, and which is merely consequence. Serous effusion must occasion diminution of the brain, and diminution of the brain is very likely to give rise to serous effusion. However this may be, we cannot feel surprise at wasting of the cerebral substance in old age. It obeys only the law to which all the other tissues submit. Yet, even in old age, atrophy is but one of many changes of the cerebral mass. Its arteries are become opaque, obliterated, or dilated—its venous system is enlarged, in a state of congestion, and its current dull and sluggish—the cellular tissue below the arachnoid is the seat of serous effusion—and, finally, the brain is wasted—and its structure probably altered. Can we single out one of these many changes, and on it alone lay the blame of the intellectual decay of the octogenarian? We might as well pick out some particular alteration in some other tissue, and attribute to it the declining performance of that tissue's functions. In old age, all the textures and all the systems are deteriorated, each in its turn and in its way; and, as every part is composed of many subordinate portions, it is the sum of their alterations that constitutes the infirmities of declining years.

We cannot go so far as Dr. Sims in many of his inferences, or rather suppositions. Having found hypertrophy in persons who were intellectually sound, and who lived and died without a cerebral symptom, we cannot see with what confidence our author can suppose that many instances of sudden death may be found to depend on such hypertrophy. Such suppositions are obviously hypothetical in a high degree. Yet it would be expecting too much from human nature, to call upon a man to pursue long and closely a particular investigation, and to give to its details no more than they deserve.

III. On the Cure of Ramollissement of the Brain. By J. Sims, M.D.

The objects of our author in this paper cannot be so well or so clearly stated as in his own words.

"Two varieties (he commences by observing) are principally observed on dissection, in the early stages of ramollissement of the brain: one, of a red colour, chiefly taking place in the gray matter covering the convolutions, or in that of the corpora striata, &c. and not unfrequently in the white matter, when connected with apoplectic extravasation of blood; the other, of a white colour, or sometimes of a pale yellow colour, occupying the white matter of the brain. This frequently occurs in the central parts of the brain of children, and of adults who die of the inflammatory disease termed hydrocephalus acutus: it is also frequently met with in the brains of old people connected with diseased blood-vessels, and other morbid appearances, and is then most probably not an inflammatory affection.

The colour of the red ramollissement appears to arise from the capillary vessels, carrying red blood, being dilated in the softened spots, from extravasation, or from transudation through the coats of the vessels, or probably from all these circumstances taken together.

The colour of the white ramollissement is probably occasioned by the softening taking place in the intensely white part, where no red capillaries are seen, as the corpus callosum and the fornix, or in the white matter where red vessels are seen sparingly, it may take place in small medullary patches, at a little distance from these vessels, so as not to endanger their laceration; or in

cases of diseased arteries, the red vessels in patches of the white matter have become ossified, cartilaginous, or obliterated; or the colour may be influenced by the admixture of lymph or puriform fluid with the softened parts of the white matter.

In examining the brains of persons who have in a former period suffered apoplexy, paralysis, vertigo, loss of feeling or motion, we find generally some or other of the following appearances: cicatrices; cysts, containing less or more fluid; also an ochre or fawn-coloured matter, the evidence of former extravasation; small holes of various sizes, lined by a thin, transparent membrane, and containing serous fluid; atrophy of the grey and white matter; small spherical lumps of coagulated blood; serous fluid in the membranes, the ventricles, and the substance of the brain.

I am inclined to believe the atrophy of the gray matter, whether on the surface or in the central parts of the brain, when a fawn-coloured deposit is connected with the wasted spots, and the numerous small holes in the white matter with yellow deposit, as evidence of the arrest or cure of red ramollissement: and the clean-cut cavities in the white matter, and sometimes in the gray matter attached to it; and very often in the gray matter of the corpora striata; the numerous small holes lined by a pale membrane, vascular or not, and containing serous fluid; also the new bread, or porous cheese-appearance, and the small, harder lumps in the white matter, and the general hardening of it, as evidence of the arrest or cure of white ramollissement. In the following pages I shall endeavour to illustrate, and *I trust* to prove, the truth of this position, by several dissections of the brains of persons in whom these appearances were found." 383.

The paper occupies thirty-seven pages of the volume. It contains twelve cases. Our author, after the preliminary observations we have quoted, revives the opinions of pathologists on the subject of ramollissement and its cure. M. Cruveilhier appears to be the one who has been most explicit, and indeed most sanguine, in his ideas of the mode of reparation in this malady. M. Cruveilhier's sentiments may be stated.

The mode of cicatrization, he says, of ramollissement of the white substance, is occasionally exhibited in the formation of cellules, infiltrated with a sort of clear bouillie, like size; while the mode of cicatrization of ramollissement of the grey substance consists in cavities with a yellowish scar. Such is M. Cruveilhier's account of the cure of ramollissement, of the white matter and the grey. He enters more in detail into the subject, but the preceding quotation is sufficient to explain his general affirmations.

Dr. Sims, indeed, goes farther than M. Cruveilhier, or, indeed, than any one else. Whilst Andral and others have doubted if such a thing as the cure of ramollissement occurs, Dr. Sims asserts unhesitatingly that it is frequent. A pregnant instance this of the differences of doctors! Yet exact investigations, such as those of pathology, would seem, à priori, to admit of few disputes of this sort. But to proceed. After criticising some cases related by Dr. Bright and M. Scoutetten, our author brings forward his own cases. They are, as we have already stated, twelve in number.

CASE 1.—*Recent Ramollissement—rouge on the Surface: Traces of Ramollissement cured in the Central Parts.*

Mary Green, æt. 60, admitted with symptoms of gastro-enteritis, of which she died. Two days before death slight delirium came on, succeeded by coma, and apparently attended with loss of sight.

"*Inspection, May 9th* 1835, *twenty-five Hours after Death.* Head. High con-

gestion of the veins of the surface, which were beautifully tortuous. The blood-vessels of the brain were loaded throughout. In the cavity of the arachnoid there was extravasation, and coagulum on some parts of the brain, in small thin layers. It might appear doubtful whether this was a post-mortem appearance, or one which appeared in the last moments of existence; but it is highly probable that it was connected with some spots of red ramollissement which appeared on the inferior part of both posterior lobes of the cerebrum. This was small in extent, and little more than a third or a half the depth of the gray matter, which was red from torn vessels and slight extravasation, so as to present the appearance of being worm-eaten. The arachnoid and pia mater adhered to the brain partially at these points. There was a fawn-coloured hole, the size of a pea, in the right thalamus. In the grey matter of the left corpus striatum there was a small cavity, with fawn-coloured lining, and around it were several small holes, without fawn-coloured deposit. There did not appear to be any holes in the medullary matter. Effusion of serous fluid in the sub-arachnoid tissue, of a gray colour. Four ounces of fluid in the ventricles, of old standing. Weight, 2lbs. 4ozs." 393.

There were several cicatrices of old cavities in the upper part of the lungs —globular hypertrophy of the left ventricle of the heart, with dilatation of the right chambers—ulcerations, &c. in the intestines. The following are our author's remarks.

"In this patient's brain, there appear to be traces of ramollissement in different stages of cure. In the softened spots on the surface of the posterior lobes of the hemispheres, absorption had taken place, and adhesion between the pia mater, arachnoid, and brain. The several small holes without discoloration around the larger cavity, lined by a fawn-coloured membrane in the grey matter of the left corpus striatum, appear to me to attest the pre-existence of a softened state of the brain surrounding an extravasated clot, and that these cavities are the traces of its arrest and cure." 393.

The second case detailed by the Doctor is interesting, independently of his ideas on the cure of ramollissement. We accordingly subjoin it, curtailing the particulars.

Case 2.—*Several Attacks of Paralysis—Ramollissement—Holes in the Brain—Spherical Lumps of Coagulum.*

Mrs. A. S. æt. 50, having suffered much anxiety and fatigue, and having experienced nervous uneasy feelings in the head, lost, on the 22d Nov. 1831, the due control over the muscles of the voice. The pulse was 100, sharp and contracted. On Dec. 1, she was suddenly seized with great nervous excitement and alarm, and experienced a change of sensation in her left hand, and a dragging of her left leg. These symptoms soon improved, and she gradually recovered nearly her former state; yet her nervous agitation occasionally appeared, and at one time it bordered on incoherence. On the 1st April, 1832, she had another attack. On the 3d, her articulation was very indistinct; left eye protruding; left angle of the mouth drawn down; diminished power of moving the left upper extremity, particularly the fore-arm, with very feeble power of grasping; no loss of sensation in the limb; no impediment in walking. Pulse small, sharp, and quick; heart beat with much labour over a large surface. Her general manner was altered, and her understanding and feelings appeared to have sustained a shock. She recovered from some of her symptoms, but the paralysis of the left arm remained. During the succeeding eighteen months, she suffered several other

attacks, of more or less severity. Her intellect became enfeebled, and her feelings blunted. She declined in every way, and, in the beginning of 1834, she died.

Inspection, the Day after Death. Head. Skull hard, with a thick os frontis. The arachnoid and velum interpositum were opaque, and of a light slate colour: there was some fluid between the membranes, and from four to six ounces in the ventricles. There was an old fawn-coloured deposit in the left hemisphere of the cerebrum: the thalamus of the right side was softened. The blood-vessels were thickened with white deposit. Many small holes were observed, appearing like worm-eaten cavities, in both hemispheres of the cerebrum; some were also found in the cerebellum; they were of various sizes, some spherical, and others of an irregular shape; some were quite clean, and not at all discoloured, especially in the white matter; others were lined by a light fawn-coloured membrane. Several small black spherical bodies were observed, much resembling melanotic matter, in two or three places: they were afterwards found to be portions of coagulated blood inclosed in a membrane; the surrounding white matter was not tinged by the blood. The substance of the cerebrum, with the exception of the right thalamus, was harder than usual.

Thorax.—Hypertrophy of left ventricle of the heart. Other viscera examined, natural.

Dr. Sims' explanation of the preceding case may be omitted. It is more ingenious than satisfactory—probable, perhaps, but difficult of proof. He says, for example, that "the various holes found in different parts of the cerebrum and cerebellum, the fluid effused, and the hardening of the cerebrum, are traces of previous disease in the organ, which I take to have been ramollissement without extravasation, excepting in the holes where yellow matter was found." This may or may not be the case, but as such conjectures prove nothing, we may at present pass them by.

The next case we shall offer (the sixth of Dr. Sims), is brought forward as an instance of cure of ramollissement of the gray matter.

CASE 3.—Richard Bailey, æt. 53, brought to the workhouse April 10th, 1835, in a state of diarrhœa and exhaustion. On the 22d he died.

Dissection. The arachnod lining the dura mater laterally, and throughout nearly the whole of the base of the skull, was generally, and more particularly in patches, discoloured by a granular deposit of minute rusty-coloured points, evidently the traces of effused blood between the dura mater and the arachnoid. The arachnoid on the right parietal region was separated from the dura mater. Several of the convolutions at the surface of the base of the posterior lobes were in various degrees absorbed, and the fawn-coloured deposit placed there; in one or two places, the whole of the gray matter was removed and the white matter exposed, in others an external thin layer only, the arachnoid covering these places was entire. From 8 to 10ozs. of serum were effused between the membranes and into the ventricles. The brain was atrophied. The vessels were but little loaded, and had no appearance of disease. Weight, 2lbs. 7ozs.

There was fluid in both pleural cavities and in the pericardium—tubercles, and cavities, and pneumonia, existed in the lungs.

Dr. Sims looks on the absorption of the gray matter and the fawn-coloured

deposit as ample evidence of the previous existence of red ramollissement with slight extravasation.

The heading of the tenth case is illustrative of the many lesions found in the kind of cases that fall in the workhouse under the inspection of Dr. Sims. His sexagenarian patients have probably, many of them, hardly one organ sound. The lesions of old age are so numerous and so general, that it is difficult to determine the contribution of each towards the mental and bodily decay. But we spoke of the heading of this case. It is styled one of—apoplexy—hemiplegia—attacks of angina pectoris—ramollissement of gray matter—traces of ramollissement in central parts—hypertrophy of the heart—ossification of the coronary artery. With this enumeration we shall rest content, and proceed at once to the conclusions of our author. He thus advances them.

"1. In some of the cases the account of symptoms is necessarily very limited, but this circumstance I do not consider of much importance, as I am desirous of placing the subject on its true basis,—the anatomy of the brain: in other cases, however, we have a sufficiently copious detail of symptoms which indicated the nature of the disease, and the progressive improvement in some of the paralytic symptoms corresponded with the traces of the cure or arrest of ramollissement observed in the brain. The cases, No. II., Mrs. A. S. and No. X., Thomas Wood, are examples in illustration.

2. The traces of the cure of ramollissement of the gray matter are, absorption of one or more layers of this substance on the convolutions, and adhesion of the pia mater to the part; holes in the gray matter of the corpora striata and other central parts, together with atrophy and flattening. When transudation from the blood-vessels, or extravasation, has taken place, constituting red ramollissement in the gray matter, a permanent fawn colour of the atrophied convolutions, and of the small holes in the other parts, is observed. The slightest form of this softening of the grey matter is noticed in the case of purpura hæmorrhagica; in others we have one or more layers removed, or the entire gray matter, leaving the white matter of the hemisphere visible. We sometimes see merely small holes in the corpora striata; at others, cavities of various sizes and forms, with a marked wasting of these bodies.

3. The traces of the cure of ramollissement in the white matter are, the numerous clean or scooped out holes containing a limpid fluid, some of which are observed to be lined by a fine transparent membrane; others appear as if worm-eaten. These holes are of various sizes and forms, from minute points to the magnitude of a bean: the porous cheese or new bread appearance; the hardened state of the white matter generally in these brains, and particularly in the parts contiguous to the holes; the granular state of the white matter indicating cicatrices; the hardened state of the corpus callosum, fornix, &c., found in the brains of children and young persons, with fluid in the ventricles, probably the consequence of previous inflammatory ramollissement at an earlier period of life. When there is observed the fawn-coloured deposit in these holes of the white matter, they are traces of red ramollissement of the white matter, or probably, in some instances, of what has been sometimes termed capillary apoplexy.

4. I have perhaps to assume in this argument that ramollissement is *by some means or other stopped in its progress;* and, if this be granted, the preceding detail of the morbid appearances will readily fill up the several steps of the process of cure: the absorption of the softened parts; the adhesion of the pia mater on the surface; the secretion of fluid into the holes; the granular state of the white matter, probably from cicatrization; the hardening of the white matter, probably from effusion of lymph; and the fawn-coloured traces of previous transudation and extravasation. And I think this assumption ought to be granted,

from the improvement in the symptoms of some of the patients, corresponding with the state of the brain after death; and because it is consistent with all analogy in the powers by which nature arrests or cures disorganization in other parts of the body.

5. There are some points connected with the subject, as the spherical spots of coagulated blood, the extravasated layer on the arachnoid, the fawn-coloured trace of extravasation between the arachnoid and the dura mater, and the connection of the traces of previous ramollissement with apoplectic clots: these are subjects well worthy of attention, but I have sufficiently adverted to them in the remarks on the respective cases in which they occurred.

6. The preceding facts and observations are, I believe, sufficient to attest the cure of ramollissement of the brain, and to set the question at rest on the solid basis of pathological anatomy." 416.

It is difficult to know exactly what to say on the preceding observations. That Dr. Sims is satisfied is clear—that he mixes with his facts a large share of speculation is quite obvious—but that those facts are deserving of consideration cannot in fairness be denied. The cure of the red ramollissement attendant on extravasation is unquestionable. There is scarcely a hospital pupil of two or three years standing who is not perfectly familiar with the fact, that in the brains of persons who have had hemiplegiac attacks, and sometimes when no such history can be obtained, the cerebral mass displays here and there the marks of former extravasations with their attendant softening, in a condition more or less advanced towards cure. But we shall not pretend to determine if our author's general statement be correct or not—we shall not pretend to pronounce on the question whether he is right or wrong in his description of the cure of the red and the white ramollissement.

One circumstance has struck us, and must make an impression on the minds of all—that the examinations so pursued by Dr. Sims were all in the bodies of old persons. The youngest of the individuals, who form the subjects of the cadaveric researches of our author, was 53 years old;—the majority were from sixty to seventy years of age. At that period of life, the lesions of the organs, more particularly of the brain, are comparatively seldom simple. The great fault is usually in the circulating system. The vessels are more or less inelastic, perhaps actually diseased—the left ventricle of the heart is probably hypertrophied—the various organs are more or less altered in their several ways—sub-arachnoid effusion is found in the brain—the texture of that organ has most likely undergone minute and subtle changes which escape our coarser means of examination—and the investigations of Dr. Sims shew that wasting of all or of parts of it is common. Their senses have failed because the minute organization of their matériel has undergone certain modifications. Amidst this general mass of disorganizations it may be interesting and curious to single out one, and, making it the subject of special study, to see what share it has in destroying the rusty and worn-out machine—it may be interesting and curious as a matter of abstract pathological science, but in the eye of the utilitarian it will seem as nought, and the practical physician will be too apt to regard it as a pathological play-thing—a subject for school-boys to pore over in the dead-house, or for doctors who see more of the dead than of the living to muse or to discourse upon in the closet or the lecture-room.

We do not participate in this practical contempt for abstract science. It

is the mixture of abstraction with matter of fact, that gives to medicine much of its interest. The mere routinist who looks on all knowledge for just what it will bring, may put guineas in his pocket, but will seldom materially advance his art. The great improvements are rarely made by your mere practitioner. Genius and speculation discover truths, which men without genius or speculation apply. Mr. Pott was a much better practical surgeon than John Hunter, but how much more has John Hunter advanced the science of practical surgery than Mr. Pott. That one idea, that the ligature of an artery above an aneurism might cure an aneurysm, has done more for humanity, directly and indirectly, than the labours of almost all the empiric sect from Hippocrates to the meanest drug composer of this day. We say, then, to Dr. Sims—"Go on. Persevere in your laborious and scientific investigations."

IV. Some Cases of Mental Derangement, successfully treated by the Acetate of Morphia. By Edward J. Seymour, M.D. &c.

This Paper is of a widely different character from that of the three we have quitted. After perusing pathological articles, we turn with pleasure to those which exhibit curable or cured disease. The mind finds repose and a gleam of satisfaction at the prospect which wooes it from the contemplation of death. A successful case is like a novel. The page closes with the cure, as with the marriage of the parties, and nothing but health and happiness are in the future.

The laudable object of Dr. Seymour is to shew the good effects that sometimes attend the exhibition of the acetate of morphia in cases of insanity. He observes with justice that too much has been attributed to inflammation of the brain in the production of mental derangement. Experience, he says, has shewn that blood-letting in maniacal cases, unconnected with disease of other organs than the brain, is seldom attended with good effect, and of late years the soothing system has very generally been adopted by medical men, and founded as it is on true principles of pathology, is more likely to lead to success than any other. To diminish the increased and morbidly acute perceptions, and to effect a decrease in the sensibility of the organ, and to reduce the exaggeration of its natural functions, seems to be the great object; and so far from such a condition being always the result of too great a flow of blood to the head, morbidly stimulating the organ, it often occurs in those who have rather less blood than usual for the maintenance of life in the brain, occasioned by excessive evacuations, watching, anxiety, and bad living.

The cases which form the subject of the present paper are three. Each is interesting.

Case 1. "A lady, aged about forty-eight, was attacked in the month of August, 1833, (after exposure to severe distress by the death of a relation who expired in her presence,) with mental derangement. Her usual habits of thinking were those of great deliberation; she had lived much in society, and from her station, mixed much with the world, nor had there at any time been any, even the slightest, indication of eccentricity or weakness of mind. Her mind was, at the time I saw her, filled with gloomy ideas; imaginary neglect of great and solemn

duties, and a belief of having committed indescribable and even ill-defined crimes, constituted the principal features of her malady. Her bodily health was unusually robust, and she had scarcely ever suffered even from trifling bodily ailments. In the first instance the patient was bled, and took repeated doses of purgative medicine, but without any beneficial effect. The pulse was not weak; the nights were sleepless, and there was constant watchfulness present; there was no pain in the head, but a sense of weight was described, and there was restlessness of the body always present, so that the patient would often endeavour to jump out of bed and run about the room. During an unavoidable absence from London, the patient was seen by my friend Dr. Southey, and she was kept under nauseating doses of tartar emetic without any satisfactory result.

It was now resolved to try the morphia, and a grain of the acetate was ordered to be taken every night, the bowels to be kept open by small doses of castor oil; the severity of the symptoms became greatly diminished, and it occurred to me that the sedative effect of cold would greatly assist the operation of the remedy. Ice was therefore kept to the head in a bladder, day and night. The morphia never failed to procure a good night, and thus by degrees, without any other remedy, except those mentioned, the mind cleared up. The use of ice was gradually abandoned, but the morphia continued to be administered every night during three months, although all traces of insanity had disappeared six weeks from the commencement of the employment of the remedies, during ten days of which the ice was kept constantly to the head. No relapse whatever has occurred in this patient." 171.

Case 2. A married lady, æt. 34, the mother of several children, who had over-exerted herself previously to commencing a journey, and in whom the catamenia were reported to have been, in consequence, suddenly checked, was attacked with what was thought to be inflammation of the lungs. For this she was bled, &c., but the blood displayed no buffy coat. She was then seized with mania, the prevalent idea being fear of some object near her, or of some serious accident having happened to those she loved. Dr. Seymour saw her once and ordered a dose of morphia, which gave her sleep but was not repeated. In about a fortnight, the patient was removed to London, and placed under Dr. Seymour's care. The mind was seriously affected, the patient was violent, and her imagination strangely disordered. She fancied her children were murdered, and their spirits returned to torment her, and that some similar evil menaced her husband. Her sleep was broken, and her conversation incoherent. The pulse was 100, and not strong. The tongue white, but not loaded; there was no fever, but occasional flushing of the face. The catamenia had returned at the usual period. A grain of the acetate of morphia was ordered to be given every night at bed time—ice was applied to the head—and the bowels were kept open by castor oil or senna every other morning. In three weeks the patient began to recover, but she was not well before several months had elapsed. On one occasion opium was substituted for the morphia, but it greatly disagreed.

Case 3. A lady whilst greatly distressed in mind bore a child. Her confinement was followed by mental derangement, and a state of utter imbecility. Aroused occasionally by the importunities of those who watched her, she uttered a short quick cry and relapsed into her usual state. Her fæces and urine were passed all unconsciously. The skin was cold, the pulse

feeble, she never seemed to feel pain, nor did her hand wander to her head as if any painful affection of the brain existed. Morphia every night and castor oil every other morning were prescribed. She very slowly recovered and has since continued well.

Dr. Seymour adds—

"I will not detain the Society by more examples of the utility of this medicine in diseases of the mind, although I have seen several of a more chronic form experience great relief from its employment.

It appears to have been of more use in what is termed melancholia, where the mind is tortured by imaginary want, ruin, or crime, than where the derangement partakes of more brilliant ideas, as of super-human knowledge, dexterity, or wisdom; or in those cases in which one single idea occupies and absorbs the mental powers." 175.

The paper is worthy of the consideration of our readers.

Narrative of a Voyage round the World, &c. &c. By *T. B. Wilson*, M.D. R.N. Octavo. Sherwood, 1835.

A book like this, written in the most classic style, and abounding in adventures and perilous escapes, would have excited universal attention two centuries ago, or even much later. But now, a "voyage round the world" is no more than a voyage across the Atlantic in the days of our forefathers. The mere circumnavigation of the globe, however, forms but a small part of the interest excited by Dr. Wilson's narrative. It is little, if at all, inferior in this respect, to the celebrated narrative of Captain Bligh, to which, indeed, it bears a great similitude, except that it is much better written. Our reasons for going out of our usual course to notice this volume, will shortly appear, and, we hope, prove valid. It will afford a striking illustration of an important principle of hygiene, which is not sufficiently attended to in medicine.

Dr. Wilson has been eight voyages to New South Wales, in charge of convicts, and has been twice or thrice shipwrecked in that time. In the year 1829, after landing his convicts at Sydney, he re-embarked for Batavia, in the ship called the "Governor Ready;" and, on the 17th of May, the ship struck with such force on a coral reef, near Murray's Island, that the rock penetrated her bottom, and, in a few minutes the water was up to the lower deck! They had now 900 miles, at least, to traverse in open boats, and through a most perilous navigation. It was almost exactly in the same course as that pursued by the launch of "Bounty Bligh." But Dr. Wilson's crew were exposed to more perils than the officers of the Bounty, who had a strong boat to bear them over the pathless deep. We cannot dwell on the various "hair-breadth escapes" of the boats, in this long voyage through innumerable rocks and shoals. One scene will be sufficient. One evening a hurricane came on, and the crew of the jolly-boat, being frightened, implored to be taken into the long-boat, already labouring with her cargo, and very leaky. At first they resisted this appeal, but

at length complied, at the imminent risk of all their lives. The crew of the jolly-boat no sooner came close to the long-boat, than they made a rush on board the latter, and nearly upset her! They were now in great danger, and could hardly keep the boat before the wind; "when, about nine o'clock, a heavy sea, whose death-denoting sound still lingers in my ears, rolled over the larboard quarter, and filled the boat!" For a moment they were paralyzed, believing that they were going to the bottom; but, finding the boat still floated, they managed to bale out the water. They had scarcely cleared her, when again they were swamped—and again preserved from a watery grave! After a series of miraculous escapes they reached Timor, the Island where Captain Bligh found refuge after his adventurous course! Here they met with some acquaintances, and one of these was so struck with the wan and altered visage of Dr. Wilson, that he burst into tears while surveying the living remains of his friend!! Now, during the whole of this long series of disasters, starvation, and exposure, night and day, to storms and rains in open boats, they lost not a man—nor had they a single instance of sickness! Some of them, indeed, died afterwards, when the toils and dangers were over, and when they had food, raiment, and shelter from the elements. The principle which this illustrates is one which we have deeply studied, and which will shortly be laid before our readers. It is this:—that activity of body and excitement—even painful excitement—of mind, will counteract, in the most surprising manner, the various causes, moral and physical, of diseases. We have collected, for another occasion, a great many illustrations of this principle, drawn from ancient and modern history. The shipwreck so beautifully narrated by Dr. Wilson shall have a place on the list. We shall here only briefly allude to one or two others.—One of the earliest on record, is the celebrated retreat of Xenophon with the ten thousand Greeks, after the fall of Cyrus on the plains of Cunaxa. This band was left, without commanders, money, or provisions, to traverse a space of *twelve hundred leagues*, under constant alarms from the attacks of barbarous and successive swarms of enemies. They had to cross rapid rivers, penetrate gloomy forests, drag their weary way over vast and burning deserts, scale the summits of rugged mountains, and wade through deep snows and pestilent morasses, pursued by implacable foes! It does not appear that they lost a single man *by sickness* during the whole of this march. Xenophon is often very minute in his statements of the losses they sustained. He even describes the individual cases, and the names of the individuals wounded. Only two instances of sickness are put on record—one a sort of *bulimia*, or canine appetite, produced by the cold of the snow among the Armenian mountains; but it did not prove fatal. The other was an illness of 24 hours' duration, which was general throughout the army, the consequence of indulgence in a kind of honeycomb, which they found in great abundance in one part of Armenia. It produced vomiting and purging amongst those who ate freely; but a kind of drunken delirium in those who ate sparingly.*

As the Greeks lost only 500 men during the whole of this march, and none are mentioned as dying, except by wounds, we may fairly conclude that the

* Sir Charles Bagot informed the Editor that he experienced the same thing, after eating honey in some of the mountainous parts of America.

incessant activity of body, and vigilance of mind, preserved the ten thousand Greeks from all kinds of disease during this unparalleled retreat.

It is not a little remarkable that Xenophon himself discovered, or at least anticipated this very PRINCIPLE, at the moment when it was most needed. In the stupor which came over the Greek army, when they saw their Generals butchered by the treacherous Tissaphernes, and themselves surrounded by ruthless enemies, Xenophon, in his address to some of his brother-leaders, says:—"The soldiers have, at present, nothing before their eyes but misfortunes—if any one can TURN THEIR THOUGHTS INTO ACTION, it would greatly encourage them." Here, then, is the very PRINCIPLE itself, happily conceived, and most promptly acted on, by the Athenian General! He tried, and with success, to convert the torpor of despair into the energy of desperation—urging his men to prefer DEATH, in the sanguinary but brief conflict with the enemy, to the *protracted tortures* that would inevitably be the consequence of capture. Then it was that the tents were burnt—the carriages destroyed—the sumpter-horses slaughtered—and every unnecessary incumbrance, except the sword, abandoned. During 215 days of almost uninterrupted march—generally in the face of the enemy—often between two enemies, and engaged in front and rear at the same time, the army lost not one man by SICKNESS!! Here, then, the physical causes of illness were numerous, and the depressing passion of FEAR was necessarily blended, in no small proportion, with the exciting ones of hope and love of life. Yet all these were resisted by activity of body and excitement of mind.

Many modern illustrations of this principle might be quoted, but our limits are restricted. The unheard-of privations, toils, and dangers survived by our own countrymen, the associates of Byron, through the wilds of South America, from Patagonia to Chili, offer a most splendid illustration of the principle in question. Xenophon's band marched through populous, though hostile countries, and it does not appear that they ever suffered much from hunger. Byron's small but determined crew were wasted to skeletons by want and cold—often compelled to eat grass and unwholesome berries, to allay the dreadful sensations of hunger.

> "In horrid climes, where Chiloe's tempests sweep
> The foaming surface of the tortur'd deep,
> 'Twas their's to mourn misfortune's rudest shock,
> Scourg'd by the winds, and cradled on the rock;—
> Yet, at thy call, the hardy tars pursued,
> (Pale but intrepid, sad but unsubdued)
> Pierced the deep woods, and hailing from afar
> The moon's pale planet and the northern star,
> Paus'd at each dreary cry, unheard before,
> Hyenas in the wild, and mermaid's on the shore."

Through all this horrid series of dangers and woes, SICKNESS was absent, notwithstanding the operation of the most depressing passions co-operating with physical causes of disease. The ACTIVITY of the BODY seems here to have been the only principle of hygiene.

On a future occasion we shall enlarge upon this subject; in the meantime, the principle is applicable to private life as well as to national events—to individuals as well as to masses of men.

The interesting volume of Dr. Wilson, so replete with the most affecting

incidents will prove very useful, as well as amusing, to a large portion of English readers, because it embraces a description of the British settlements on the coasts of New Holland—more especially Raffles Bay, Melville Island, Swan River, King George' Sound, &c. It also contains important observations on transportation—the treatment of convicts during the voyage, and advice to persons intending to emigrate to the Australian colonies. To these may be added some highly amusing sketches of the manners and customs of the aboriginal tribes of the *New World*, to which Australia may lay claim, America being already antiquated.

PRACTICAL OBSERVATIONS ON DISEASES OF THE HEART, LUNGS, STOMACH, LIVER, &c., OCCASIONED BY SPINAL IRRITATION: AND ON THE NERVOUS SYSTEM IN GENERAL, AS A SOURCE OF ORGANIC DISEASE. Illustrated by Cases. By *John Marshall*, M.D. 8vo, pp. 172. London, Oct. 1835.

WE profess ourselves to be physiognomists in the title-pages and aspects of books, and somewhat inclined to the doctrine of *predestination*, as respects the names of authors. The subject of a work, too, often gives rise to a kind of *divination* as to the profit or loss that is likely to result from perusal of the volume. The name of the author—the appearance of the title-page—the size of the volume before us, made favourable impressions on the mind. The *first* assured us that a man of talent and experience had been occupied in the construction of the book—the *second*, or title-page, was short, expressive, yet simple. This looks well. The *third* (size) proved that the author was not a book maker by profession, as little profit could be expected from a six shilling volume—except in the way of *reputation*—the most honourable and legitimate source of emolument.

Dr. Marshall, as an Army Medical Officer, distinguished himself, towards the close of the war, by his zeal and talents, while our victorious troops occupied the capital of LA BELLE FRANCE, and for the last twenty years, has cultivated his profession in private practice. We are always glad to meet an old soldier or sailor, when competing for civil honours. There is an *honesty* about them that insures a favourable reception, and we seldom fail to find them rewarding us by bringing something useful into the field of science or literature.

Our readers will remember the extended analysis which we lately gave of the work of Messrs. Griffin on Spinal Diseases. It appears that Dr. Marshall has been engaged nearly eighteen years in the investigation of the same subject. When the work of Messrs. Griffin was published, his own was ready for the press; and he determined to print it before he consulted the work of Messrs. G. on the same subject. After it was printed, and before the preface was struck off, he very naturally ventured to peep into the volume in question, and while he was gratified by many remarkable coincidences, he was startled by some discrepancies. The latter, however, were easily reconciled by a little consideration of the different subjects and circumstances in the two cases.

It may be proper to state that, in the years 1815 and 16, our author had ample opportunities of prosecuting pathological researches in the British Military Hospitals in France. He then, like many others, thought that morbid anatomy was the polar star of medicine, and that it would guide him through all the labyrinths of our intricate science. He accordingly cultivated it with all the ardour of a young enthusiast. He was appointed to a medical charge in the Hospital of St. Louis, and "had unceasing opportunities of devoting himself to his favourite pursuit." On the cessation of war, he retired into private practice, with undiminished ardour in the cultivation of pathological anatomy.

"The more assiduously I pursued it, however, the more fully did I become aware of the truth, that morbid anatomy, however indispensable to the scientific practice of our profession, never could be to me, or any other physician, the *infallible* guide to diagnostics I had so fondly hoped to find it." 3.

Yes. This we have repeatedly urged in this Journal. Morbid structure is the consequence, rather than the cause of morbid function. At all events, *functional disorder* long precedes organic disease—and, therefore, *symptomatology* must be our first and most important study.

"Constantly did cases in private, as they formerly had in hospital practice, come under my observation, where, on *post-mortem* examination, no lesion or structural disease was found adequate to account for the symptoms during life: and, again, not a few presented themselves, where severe lesion and structural disease had actually existed, and no complaint had ever been made during life which could have led to the suspicion that such was the case." 3.

These and other observations led Dr. Marshall to the conclusion, that the NERVOUS SYSTEM was to be explored.

"It is an extraordinary, and, as far as I am aware, a hitherto almost unnoticed, law of the nervous system, that pain excited by severe pressure, or other morbid action at the root or origin of a nerve, or in any of the ganglions, is referred, not to the point where the cause exists, but to the distal extremity of the offended nerve." 4.

Dr. Marshall, in a note, discovers a passage in Sir Charles Bell's works, where this phenomenon is noticed. But, had his acquaintance with medical literature been more extended, he would have known that this fact has been almost universally acknowledged for a long time past. We need hardly remind our readers, that we have inculcated this doctrine for many years.

The case of neuralgia which Dr. Marshall quotes from this Journal, in 1828, where the pain was referred to the fingers of the amputated hand, affords a familiar example. Dr. M. is inclined to give the nervous system the *initiatory*, in all or almost all morbid actions—and we have little doubt that he is near the truth. At the same time we must recollect, that the condition of the blood and other fluids influences the nervous system, and that the initiatory may thus be in the vascular apparatus, though unseen and unknown till another series of morbid actions comes to be set up. The following case is instructive.

"A gentleman, while skating, fell upon the ice, and received a contusion in the lumbar region, from which he did not at first perceive any great inconvenience. He shortly afterwards, however, began to find himself affected with alarming weakness of the lower extremities, and with retention of urine. The weakness rapidly increasing, almost to paralysis, the back was examined, and 'ten-

derness to touch being found present, the case was treated as a spinal one.' The remedial treatment is not condescended upon; but it is said that considerable amendment in the weakness of the lower extremities took place; in the functions of the bladder, however, no such amendment occurred. Incontinence supervened upon retention of urine, and in six weeks after the patient came under medical treatment, he expired.*

On a *post-mortem* examination, the whole viscera were found in a healthy state except the kidneys, which were 'gorged with very dark blood,' and several small abscesses formed in them. No morbid appearance could be detected in the spinal column; and, 'the spinal marrow being found to all appearance perfectly healthy,' '*proves*,' says my Correspondent, 'that there could be no real morbid action of the spine nerves. Therefore I conceive that this forms a very curious example of *diseased kidney simulating spinal irritation*.'

From this diagnosis I beg leave completely and entirely to dissent. I conceive the *ratio symptomatum* in this case to be, that, at the period the patient fell upon the ice, the renal nerves received an injury or concussion so severe, as shortly afterwards to produce paralysis of them.

The bloodvessels of the kidneys, and those organs themselves, being thus deprived of nervous energy, became incapable of duly performing their functions. Hence the engorgement of 'dark blood,' and the breach of structure, found after death. The assertion that the spinal chord being found 'to all appearance healthy,' is an irrefragable proof that no real spinal irritation could have existed, is not borne out by fact." 12.

The following cases, which we shall abridge, go to an illustration of the same principle.

C. E. returned from Guyana to this country in 1818. He had resided 37 years abroad, where he spent much of his time in ornithological pursuits, in the woods of Guyana. About 15 years before leaving that country, he received several slugs in his body, while quelling an insurrection. Two of these, he supposed, remained unextracted, and to these he attributed his sufferings and bad health. One of these could be felt, though rather deeply seated, in the left lumbar region. The other had entered the left side, followed the course of the rib, and lodged near the spine, close to the 7th dorsal vertebra. Dr. M. thinks the patient was deceived on this point. His health never recovered after this event.

"He frequently complained of head-ache, nausea, and want of appetite; and he began to experience attacks, which gradually increased in frequency and severity, of numbness, cramp, and tremors of the lower extremities, especially of the left. Sometimes these assumed the character of violent spasm, attacking him so suddenly as more than once to occasion his falling to the ground. At the same time, the agony of pain darting down the limb was so great, that when attacked, as he frequently was, while seated in company, or walking with a friend, it was with the utmost difficulty he suppressed a scream. The only relief he had was to grasp the muscles of the thigh as tight as possible with both

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* "As the mode of treatment is not condescended upon, we cannot judge whether it was judicious or not, and, indeed, it appears probable that disease in the kidneys had made considerable progress before medical advice was taken.

In such a case, I should have been inclined to exhibit leeches very freely over the whole lumbar region, and also frequent and long-continued frictions, with some stimulating liniment. At the same time, if the patient's constitution could stand it, I would have resorted to general depletion, with a view to relieve the system."

hands, and in a few minutes it passed away as if it had never been. At these times the voice became tremulous, and the speech faltering, and continued so for a longer period than the cause lasted: for the last five years of his life, this symptom became constant, and so severe as to make it difficult to understand what he said." 15.

Sometimes he was suddenly struck on the left side of the chest, as if by the fist of a strong man, or by a shock of electricity, occasioning the most acute anguish, and succeeded by a sense of burning. These attacks gradually increased in frequency and severity, till life became a burthen. In 1823, Dr. M. extracted the slug from the lumbar region. He experienced considerable relief. Dr. M. was solicited to try the removal of the other, but declined. Afterwards a surgeon in Birmingham made a rough and minute examination, coming to the conclusion that a foreign body existed in the part, and recommended an operation. Dr. M. had felt something like a foreign body himself, but conceived that it was not the slug. Strange to say, this substance, whatever it was, suddenly disappeared, and never afterwards could be found, either in the living or the dead body!

"Not very long after his return home (from Birmingham), he was seized with one of the spasms described, while in the act of mounting his horse, and was in consequence thrown upon his back with great violence. On recovering from the shock, he did not appear to have sustained any material injury; but from this time forward there was a rapid increase of suffering. The spasms of the limbs, and the sensation of receiving violent blows on the anterior part of the thorax, became much more frequent. The burning pain in the chest became permanent; and so severe, that the poor sufferer often awoke from sleep screaming for assistance, from the idea that he was struggling through a house on fire, or was from some cause enveloped in scorching flames. His sufferings were sometimes—not always—mitigated by the application of leeches, of anodyne, and cooling lotions, and the habitual use of the Black Drop; but no remedial measures employed gave more than a temporary relief." 17.

After this, he was distressed by carbuncles on the back—and, in two years from 1824, Dr. M. discovered a small pulsating tumour at the angle of the left scapula, too clearly indicating an aneurism of the thoracic aorta. Here follows a very curious phenomenon.

"On drawing a silk handkerchief along the left side of the thorax (over the spot where the burning sensation was complained of,) from the dorsal to the sternal aspect, no unpleasant sensation whatever was produced; but the moment this movement was reversed, by drawing the handkerchief from the sternal to the dorsal aspect, it elicited a scream of agony from the patient, and caused him to start from one side of the bed to the other." 18.

We need not pursue the melancholy details of this deplorable case. The tumour gradually increased, as did the sufferings of the patient—though many of the symptoms were such as could not well be traced to aortic aneurism. He exacted a solemn promise from Dr. M. that a most accurate examination, *post mortem*, should be made!! The following were the appearances, as traced by Mr. Buchanan, of Dunbarton.

"On examining the viscera of the abdomen, we found them all perfectly sound. The lungs were healthy, but the left was pressed almost flat between the pleura costalis and the aneurismal tumour, which nearly filled the left cavity of the thorax, occupying the arch, and the greater portion of the thoracic aorta.

On removing the tumour from the thorax, we found that the vertebral extre-

mities of the ribs, from the 4th to the 7th, were entirely obliterated; as also were the sinistral portion of the bodies of the 5th, 6th, and 7th vertebræ, laying the theca vertebralis entirely bare along the whole body of the 6th vertebra; so that at this point the medulla spinalis must have been directly pressed upon by the tumour, and constantly exposed to its pulsations; yet it exhibited no morbid appearance whatever.

The tumour itself was chiefly composed of a light greyish substance, easily divisible into layers, which greatly resembled half-dressed leather in appearance and toughness. In the body of it we found several detached portions of the ribs, lying in irregular positions. The whole internal coat of the aorta was ossified, exhibiting an appearance as if covered with fish-scales. Considerable portions of it were so involved in the tumour, and so altered in structure, that but for this quantity of ossific matter, we should have been unable to trace it. The heart was enlarged, and pushed almost wholly under the sternum, and its walls thicker and firmer than usual; but no portion of ossific matter was discoverable in it, save at the tips of the tricuspid valves. The columnæ carniæ were remarkably firm.

Though examined with most particular attention, no morbid appearance could be detected, not even the slightest blush of inflammation, at the anterior part of the thorax, where the acute and agonizing sensation of burning pain had been experienced for so long a period during life." 20.

We may fairly infer that the above aneurismal disease was of very slow growth, and, therefore, we have little doubt that the neuralgic pains were its legitimate product throughout the whole course of the malady. We must detain our readers with some particulars of the second case. It occurred in a less exalted, but, perhaps, not less philosophic personage.

A negro, upwards of 80 years of age, applied to our author, after the death of the foregoing patient, presenting a striking coincidence of symptoms with those already described—and this led at once to the conclusion, that the cause was the same in both cases.

"He complained of severe burning pain on the left side of the linea alba, from the umbilicus to the ensiform cartilage; covering a very considerable portion of the left, but never at any time extending to the right side of the mezial plane; and also of the sensation of receiving sudden and violent blows upon the region of the stomach, where the sense of burning most prevailed. The same peculiar irritation was produced as in Mr. E.'s case, by drawing a silk handkerchief from the sternal to the left dorsal aspect.

At the time he first applied to me, I could not, on the most careful examination, detect any tumour externally; but in the course of the Summer, one which pulsated simultaneously with the heart and radial arteries, gradually developed itself in the upper part of the left hypochondriac region, immediately under the short ribs, and extending from the spine. It increased with amazing rapidity, and in a short time occupied the whole left side of the abdomen, reaching below the crest of the ilium. From this time till he expired, which was about six months afterwards, the agonies this wretched man endured were such as to baffle all description. Pains resembling those of the most acute rheumatism, but alternating with cramps and spasmodic twitchings, racked his limbs; the shrivelled and palsied looking extremities of which were at all times deadly cold. Severe head-ache was constantly present, which he vainly strove to relieve by a tight bandage round the brow.

I have already mentioned that Mr. E., from the most enlightened and benevolent motives, gave me his dying injunctions to examine his body; and it is remarkable that this poor uninstructed Negro did the same—'Ah, Massa, Massa!' he often repeated to me, 'whenever poor John dead, you open him's

inside, and you see what dis terrible ting is, and you know how cure other body.'—About thirty hours after death had released him, I accordingly examined his body. On laying open the cavity of the abdomen, the viscera were found upon the whole healthy, but pushed over to the right side, and the aneurismal tumour occupying the left hypogastric, lumbar, and iliac regions. The tumour consisted of solid matter, of a buff colour, which could be separated into distinct layers, resembling leather. A small quantity of coagulated blood was found at the inferior or sacral aspect of the tumour; and in that part of it which had occupied the cavity of the ilium, detached pieces of the cartilaginous parts of the short ribs were found imbedded. As far as I was able to trace the aorta, it was ossified throughout. On prosecuting the examination into the thorax, the ravages were found to be very great. The pulmonary vessels contained a considerable quantity of dark blood. The heart was pushed completely under the sternum; was small, but in no other way remarkable. The left lung was pressed flat against the mediastinum, and anterior part of the chest, by the enlarged aorta, which occupied the whole left cavity of the thorax; and, in descending into the abdomen, had carried the short ribs along with it, dislocating them at their heads, where they join with the dorsal vertebræ; and by its perpetual pulsations, it had extensively absorbed the bodies of the dorsal vertebræ themselves; at one part, along the whole length of the seventh: the medulla spinalis was denuded even of the theca, and lay perfectly exposed; but, as far as we could ascertain, there was no breach of continuity in the medulla itself, nor did it appear otherwise than healthy." 22.

The enlightened, and the philosophic European, requested his mortal remains to be carefully examined—but, at the same time, left a solemn injunction that every particle of these remains should be deposited in the grave. Poor Sambo made no such stipulation! And accordingly a part of the spinal column, including the diseased vertebræ, and also a part of the tumor, were preserved, and are now in the possession of Mr. Morgan, of Glasgow. We agree with our author in thinking that, "if these cases are not considered corroborative of the theory he has ventured to advance, he has little hope from those which he now proceeds to lay before the reader."

The first section is on "diseases of the heart and large vessels simulated by nervous irritation." We shall pass entirely over the observations respecting the brilliant discoveries of Bell and Bellingeri. From the dates of various cases in this work, it appears that Dr. Marshall was engaged about the same time as Mr. Bell, in prosecuting the same inquiry. The text then of Dr. M.'s investigations is this:—*that morbid action at the root or ganglionic junctions of a nerve excites pain, disturbance in the circulation, and, ultimately, disease in the structures upon which the extremities of that nerve are ramified.*" This view of things naturally led our author, in all doubtful cases, to examine the spine as the seat of the principal nervous tissues, and to apply external remedies suitable to the case.

"So far from finding the spine, or spinal nerves, uniformly the seat of this, I have very frequently met with cases, as Case third, where a very high degree of organic disturbance existed, yet there was present little or no irritation of the spine; no complaint of pain there having ever been made, and manipulation causing no distress: nevertheless a careful and persevering application of local remedial treatment, terminating in a perfect cure, gave irrefragable evidence that the source of disease had been rightly apprehended; but that the sympathetic, par vagum, or phrenic nerves, and not the spinal, had been the primary seat of morbid action.

It has been most successfully demonstrated by Bichat and Sir Charles Bell,

that the system of sympathetic nerves (as if in scorn of their name,) is incapable of conveying the sensation of pain. 'They may,' says Sir Charles, 'be cut or pinched in the living body without causing pain;' but it does not follow that they are therefore incapable of being irritated, debilitated, or diseased, so as to impair their energies, and render them a certain source of disease in the organs dependent upon their influence for health and vitality." 27.

We are now prepared to examine the cases on which our author's deductions depend. They are eight in number. We must abbreviate all those which we notice.

Case 1. (1821.) A young lady, aged 21 years, small stature and florid complexion, caught cold in her 18th year, and became threatened with phthisis. From this she recovered in the Summer; but had attacks of inflammation in the bowels, chest, and head in the Autumn. On the 28th October our author saw her, and considered her to be dying. Depletion had been carried to the utmost.

"I afterwards learned from a medical friend, that a few hours after I left her, a profuse, cold, clammy perspiration, the usual precursor of dissolution in such cases, came on, and in about half an hour she sunk into a state of insensibility; which all around her, save one individual, looked upon as death. The features wore all the peculiar characters of death—the breath and pulse were gone—not even the faintest throb of the heart could be felt—the whole surface of the body was cold and clammy; the jaw dropped, and the joints of the upper extremities stiffened—yet no argument would convince this individual that the cherished object of her fondest affection had indeed expired—and she persevered in using every means of resuscitation. For more than an hour these were wholly unsuccessful; but at length a very slight twitch in one of the fingers of the left hand was observed. Symptoms of re-animation gradually increased, and at the end of six hours, respiration and the motion of the heart were fully re-established; but the prostration of strength was so great that the eyes remained shut for several days. The power of speech was gone, and that of deglutition during the same period so imperfect, that only liquids in very small quantities, could be got over. The emaciation was so great, that more than one medical gentleman who saw her at this period pronounced, that from *that cause alone* it was impossible she could recover." 35.

She convalesced to some extent, when a new train of symptoms set in. When at rest, the pulse was 56 to 60; but very slight motion raised it to 100 or 140. Much agitation rendered the pulse innumerable, the patient complaining that the heart seemed to fill the whole thoracic cavity. The pulsations could be felt in all parts of the chest—face flushed—eyes prominent—sense of immediate suffocation. On the subsidence of these phenomena, great exhaustion remained. She could only lie in a half-recumbent posture during these attacks. Auscultation confirmed Dr. M. that organic disease of the heart existed. The father of the young lady, an old and talented physician, was inclined to think the complaint was occasioned by "peccant matter pressing upon the nerves of the heart and large blood-vessels." He therefore applied antimonial frictions to the spine. A plentiful crop of pustules ensued, and discharged much purulent matter. The urgent symptoms gradually subsided, and in the course of three weeks, entirely disappeared. She is now the mother of a family.

In such cases as the above, and we have seen several, the very *violence*

of the paroxysm has always led us to suspect nervous irritation rather than organic disease. But when rest and quietude of mind brought the action of the heart below par, we never afterwards entertained a doubt. We see young practitioners, every day, forming the most gloomy diagnoses and prognoses, on such occasions.

The case is, however, exceedingly curious and instructive from beginning to end. Those who despise such cases are no *clinical* practitioners. They are hankerers after doctrines, but despisers of the facts on which all sound medical theories must rest.

Case 2. (*July* 1821.) A young gentleman, aged 21 years, had enjoyed excellent health up to the present illness. He became clerk in a mercantile house in Liverpool, and soon began to complain of debility, dyspnœa, violent palpitation of the heart, loss of appetite, and emaciation. A physician advised him to return to his friends, as he was labouring under organic diseases of heart. When he arrived at Portglasgow—

"His appearance, at this time, was ghastly in the extreme. He was much emaciated; the skin was sallow and shrivelled; the features sharp, and the expression of countenance anxious and disturbed debility very great. He had severe pain of chest; frequent short dry cough; no appetite; the bowels torpid; the urine of a most peculiar and fætid odour, depositing red sand on cooling. He was languid, and extremely disinclined to exertion of any kind, as it occasioned great increase of suffering; walking quick, ascending a stair, or any acclivity, occasioned such violent palpitation at the heart, and such a sense of instant suffocation, as compelled him to sit down every few minutes when engaged in any such exercise." 39

Dr. M. was not quite satisfied with the diagnosis above-mentioned. Percussion and auscultation detected no pulmonary disease; but the action of the heart was excessive. On examining the spine, he found about five inches of the dorsal portion very tender to the touch, and exhibiting a posterior curve. This let in a new light. Proper applications were made to the spine, and the digestive organs attended to. He was restored to perfect health, and has now continued 14 years in the enjoyment of that blessing.

Case 3. (*Oct.* 1830.) We cannot go into the particulars of this case, though it is very instructive. The subject of it was a boy, 12 years of age, who from being a fine youth, became reduced to the lowest ebb of emaciation and palpitation. He had been on the Valsalva treatment for organic disease of the heart. There was very little tenderness of spine. The treatment was changed. Light nutritious food was allowed, and the spine was rubbed twice a-day with a stimulating liniment. A copious eruption came out on the back. He perfectly recovered under tonics and stimulants.

We would ask Dr. M. whether or not he suspected masturbation in any of these cases? We frequently meet with such symptoms resulting from this vice. A wrong treatment soon destroys their lives. We strongly suspect that such a state of things existed in the following case.

Case 4. (*Winter of* 1832.) James ——, aged 17 years, had enjoyed good health till the age of 15, when he was bound to the sea, and went two voyages to the West Indies. Soon after leaving port on the third voyage,

he "*became affected with unaccountable weakness, particularly of the lower extremities, accompanied with difficulty of breathing, asthma, and palpitation of the heart on the slightest attempt at exertion.*" [These are the usual symptoms which we have observed in masturbation.] On his arrival at Greenock he was visited by two or three medical men, who considered the disease as hypertrophy of the heart. Some weeks after this decision, he was seen by Dr. Marshall. He was then in a deplorable condition. The chest was hollow—arms hanging to his sides—step hesitating—face sunk and emaciated—eyes languid and glazed—pupils dilated—face rendered swollen and purple on ascending the stairs—respiration laborious—pulse innumerable—appetite feeble—digestion disordered—urine turbid—motions of heart very violent. On examining the spine, a lateral curvature was detected, including the lower cervical and dorsal vertebræ. At this part, pressure occasioned a sob or sigh, with an uneasy sensation, and increased action of the heart. Leeches, succeeded by blisters, to each side of the spine—gentle aperients—alkaline bitters. In three weeks he was much improved, but far from being recovered. The progress of the case was slow, but progressive from this time; and, in twelve months the youth was restored to health. Four other cases, of similar tendency, are detailed; but we must pass them over, from want of space.

DISEASE OF LUNGS OCCASIONED BY NERVOUS IRRITATION.

Believing that, in this and most other maladies, the first movements, of a morbid nature, are in the nervous system, Dr. M. endeavours to act upon that system, whether the disease be incipient or advanced. In the early stage, attention to the spine may do good—in the advanced stages, it can do no harm. There is no doubt that the accidental cures which St. John Long effected, and his successor, Ramage, now effects, were and are chiefly through the medium of frictions and counter-irritation. After some pertinent observations on the errors of the stethoscope, in inexperienced hands, and on the havoc produced among youth by the mania for over-education, Dr. M. proceeds to relate six cases of phthisis treated on the plan in question. We can only glance slightly at some of these.

The first case, though presenting formidable symptoms, was not, we think, phthisis at all. We suspect that it was more of hooping-cough than pulmonary disease. About the middle of December she was pronounced to be decidedly consumptive.

"At this time she could scarcely walk across her room, and her appearance was quite phthisical. The pulse was generally from 100 to 120. The pain of chest was very severe, and the *paroxysms of cough so violent that the unfortunate girl was wont to slide from her chair to the floor, when she felt them coming on, and there she lay nearly convulsed.* No expectoration ever took place; but occasionally, when unusually severe, she vomited from half a pint to a pint of colourless water; and very often blood was brought up in small quantities." 64.

Frictions were ordered over the spine, and ultimately a crop of antimonial pustules were brought out on the column. The symptoms then amended rapidly, and she recovered her health. We can only notice one more case.

Case 2. "I found her extremely emaciated; the complexion of a peculiarly sallow hue; lips bloodless; eyes sunk, and yet staring; countenance expressive of great anxiety and suffering; complains of stitches in various parts of the chest, and of a fixed pain, covering a considerable extent in the centre of the sternum, reaching to the scrobiculis cordis. Frequent, hard, hacking cough, which greatly aggravates this pain and the stitches, and is occasionally accompanied with expectoration of mucus slightly tinged with blood. Great pain of head, sometimes most severe at the occiput, sometimes across the forehead, at other times diffused over the whole skull. Night perspirations are very severe, and debility so great, that when out of bed she snatches at each successive chair for support, as she moves through the room. The respiration is quick and hurried, greatly excited by motion; and the palpitation at the heart is then so violent 'as almost to take away the breath;' the shoulders are pulled up, and the chest hollowed; cannot make a deep inspiration; the voice peculiarly feeble; catamenia reported regular; bowels rather torpid; urine scanty, and peculiarly fætid; tongue flat, yellow, and slimy at the posterior portion; pulse 120, small, and very feeble; thirst considerable; appetite very poor and capricious." 66.

We agree with Dr. M. that few will deny the formidable character of the foregoing symptoms. Finding, however, that there were no actual proofs of organic disease of the lungs, Dr. M. felt inclined to view the malady, "as one of long-neglected nervous irritation," and therefore examined the spine. On drawing his fingers gently down along the column, no pain was experienced; but on increasing the pressure, no sooner did he reach the middle and lower portion of the vertebræ, than the patient winced, drew herself forward to escape from the fingers of the examinator, and complained of great pain in the sternum.

"On repeating the pressure still more firmly, she gasped for breath; the pain in the breast covered a larger portion; and the cough was severely excited; at the same time a most disagreeable thrilling sensation darted down the inner side of the thighs to the very soles of the feet. The curvature in the dorsal portion of the spine was very evident, even without a plummit." 67.

Eighteen leeches were ordered to the painful vertebræ—gentle friction over all the other parts of the spine, and also over the thorax. The bowels were regulated by laxatives—and tonics were also employed. The diet was to be generous, but not stimulating. The recumbent posture was enjoined.

"The leeches were applied at intervals of two and three days; and before a week had elapsed, the sternal pain began to give way; and, as it were, to *recede* from its first station. At each successive application of the leeches it seemed to retreat towards the spine, at the same time lessening in severity. If, trusting to these favourable appearances, the leeches were omitted for a day or two longer than usual, the pain advanced again towards the sternum, always retreating on a renewal of vigorous applications to the spine. The general health at the same time made a sensible advance, and all the urgent symptoms declined in severity. I then applied strips of blister, an inch broad, on each side of the spinous processes in the dorsal region, keeping them open as long as seemed prudent, then allowing them to heal, opened them again a little farther up or down the column, occasionally alternating them with leeches. The progress of the case under this mode of treatment was by no means *steadily* onward. It seemed at times to stand still; at others, almost to recede, instead of advancing. Nevertheless, when I considered that the hectic was subdued, the cough abated, and the flesh improving, I would not allow myself to despair. As the summer advanced, I sent her to the mildest and most inland situation that could be selected, for

change of air; and, as in all cases of nervous irritation, this produced a most beneficial effect; she returned home in high spirits, greatly increased in flesh, and every thing in her case wearing a favourable appearance. By the end of July, every symptom of phthisis having completely disappeared, she was sent to the island of Bute, where she enjoyed sea-bathing for several weeks, rapidly progressing to a state of perfect health. On her return home, it would have been difficult to recognize in the blooming, plump young woman she appeared, the same emaciated, and to all appearance dying person, I beheld her at my first visit in February." 68.

Although we think Dr. Marshall should have given us more authentic facts as to the physical signs in the above and in other cases, yet we are disposed to attach considerable importance to his cases, and to strenuously urge our brethren to attend to his admonitions.

ASTHMA.

We shall quote the first case from this section, as one of the best.

"On the evening of 9th Jan. 1829, I received a hurried call to *A. H.*, the son of a respectable farmer, a stout lad of 14 years of age, accustomed to constant out-of-door work. The message bore that he had been suddenly seized with *croup*. On my arrival, I found him sitting at the fire-side quite composedly, and was informed that the attack had gone off as suddenly as it came on. The face, however, retained all the appearance of a recent and violent struggle, being swelled and bloated, with streaks of a livid hue. The eyes looked starting from their sockets, and the conjunctiva was suffused: the respiration hurried; pulse quick. From these appearances, joined to the description given of the attack by those who witnessed it, I was convinced it had not been one of croup, but of spasmodic asthma.

On requesting him to strip, I found the chest well formed and developed, and percussion excited no uneasiness whatever. On proceeding to examine the spine, my hand no sooner came in contact with the second, third, and fourth dorsal vertebræ, than it elicited a gasp from the patient, like that caused by a sudden plunge into cold water; and he complained that it seemed as if it would cause a second attack of all his previous sufferings and breathlessness. I could not, however, repress my curiosity to repeat the experiment, and did so several times, invariably with the same results. There was not the slightest displacement or twist of any of the vertebræ, nor did the same pressure that caused the gasping, cause any pain to the parts. The whole column was apparently healthy.

Satisfied that I had discovered the source of the spasmodic attack, I ordered two dozen of leeches to be applied over and around the spot where pressure occasioned the gasping: these to be applied every few days, and if the attacks of asthma did not cease to return, blisters to be applied, and kept up as an issue. The bowels to be kept open by mild purgatives, combined with tonics of iron and quinine.

Under this treatment the attacks of asthma declined in violence and frequency; and in two months the boy was restored to perfect health. He grew very rapidly during this time and immediately after; has, as far as I know, never experienced any recurrence of asthma; and became remarkably hale and robust." 77.

The cases of simulated disease of liver are given by Dr. M. Excepting jaundice, however, there are no symptoms of diseased liver—or very few, in any of these cases, while there are many that would lead the judicious prac-

titioner to suspect the spine. Take the following extract, for instance, from the first case.

"*J. R*——, aged 29, cook in a gentleman's family in Greenock.—Has hitherto enjoyed good health. Consulted me in consequence of extreme debility, which renders her unable to move about or take the slightest exercise. If she walks a little distance, or ascends a stair, the fatigue is so intense as to oblige her to sit down every two or three minutes; her heart palpitates violently, the breathing becomes rapid and oppressed, and faintness frequently supervenes. She complains of a short dry cough, pain in the chest, from the sternum, extending round the sides; loathing of food, and constant acidity of stomach. Voice weak and husky; talking a few words completely exhausts it, so that she stops and breathes hard." 79.

On examination, there was discovered an angular curvature of the spine, in the centre of the dorsal region. This led to an appropriate treatment and ultimate recovery.

Dyspepsia is a disorder which apes many others, and is itself imitated by spinal irritation. Four cases are related by Dr. Marshall—we shall make way for one of these.

"A young lady, ætat. 12, very tall of her age, and slender; dark eyes, hair, and complexion; complains of constant acidity of stomach, disinclination to food, amounting to nausea; acid eructations, accompanied with pyrosis; what comes up is occasionally so sour as to set the teeth on edge; constant languor, and aversion to exercise; frequent headache, and fits of the most unaccountable dejection and irritability. The bowels are torpid; the tongue foul; breath peculiarly fetid in the morning; pulse low and irregular; flesh and colour altered very much for the worse. One uncommon symptom is a constant craving for acids, so that it requires considerable attention to prevent the child drinking up vinegar, or sucking lemons, whenever she can by any means procure them.

Observing that this young lady's dress constantly hung off the left shoulder, I was induced to examine the state of the spine, and found it exhibiting a double curvature—the true Italic *f*, with a very well-marked gibbosity of the ribs on the right side, and great tenderness to touch in the cervical and dorsal vertebræ." 83.

The recumbent posture and appropriate remedies effected a recovery.

Diabetes.

One case of this disease is given by Dr. Marshall. The patient was a farmer, who had enjoyed good health till his present illness. He had been over-excited in driving cattle over Highland mountains, in the Autumn of 1832, and was very much exposed to the weather, without other covering than a great coat. Shortly afterwards his strength began to fail, and his flesh to emaciate; yet his appetite was voracious. He had urgent thirst; and voided large quantities of limpid urine. When he consulted Dr. M. he was emaciated to a skeleton, and voiding from four to five gallons of urine in twelve hours. The urine was limpid and sweet. Thought himself a "dying man." Dr. M. had long entertained an opinion, that diabetes depended on "irritation or debility of the nerves supplying the stomach and urinary apparatus." He was, therefore, very much rejoiced to get hold of this case. He at first ordered some tinct. ferri muriat. and a laxative pill at night; but this plan availed nothing, and he was ordered to have a strong

antimonial ointment rubbed along the spine. The eruption came out very tardily; but, at length, a copious crop was produced along the whole spine. "Shortly after their appearance, the symptoms began to subside with a rapidity far surpassing his most sanguine expectations." The quantity of urine gradually diminished, and became saline instead of saccharine. The appetite became natural, the thirst abated, and, in a few weeks, he was able to walk 14 miles in the day. He continued well up to the time Dr. M. left Scotland.

With this remarkable case, we must close a rather extended notice of this work. Numerous other cases are detailed, of tabes mesenterica, chorea, and anomalous affections which could not be classed under any head. We are very far from undervaluing (as some of our clever contemporaries do) this unassuming publication of Dr. Marshall. We are confident that it deserves serious attention, and that it will excite considerable interest in the minds of the practical portion of the profession, whatever the hypercritics may say or think to the contrary. Dr. Marshall, like most other authors, may have a HOBBY, and may be fond of riding the wee beastie rather farther than the wee beastie likes; but we are confident that the worthy Doctor travels generally in the right road, and very often reaches home in security after his long journies. We trust that we have given him a lift on the road, which will not be disadvantageous towards either the master or the hobby.

ON DROPSIES, CONNECTED WITH SUPPRESSED PERSPIRATION AND COAGULABLE URINE. By *Jonathan Osborne*, M.D. &c. Octavo, pp. 62. Sherwood and Co. Nov. 1835.

THE first part of this brochure was published in our Dublin contemporary, for January, 1834, and escaped our notice. The second part was read before the College of Physicians in January, 1835.

In the first part, Dr. O. stated that albuminous urine, when continuously secreted, ought to be considered as a symptom of disease in the kidney. Since that time, as physician to Sir P. Dun's Hospital, he has anxiously sought evidence, both adverse and favourable to the above opinion, and he has not met with a single instance of urine coagulating in a constant manner, in which *post-mortem* proofs (if examination took place) were not afforded of disease of kidney—"nor, on the other hand, an instance of disease being found in the kidney after death, in which, on taking a specimen of the urine in the bladder, it did not coagulate."

"On a review of the notes of all the fatal cases, I am also enabled to state, that the extent of the disease discovered after death has been, in every instance, in proportion to the degree of coagulation. Thus, when the urine only frothed on the application of heat, the kidneys, although gorged with blood, contained the grey, granulated structure exclusively in the outer portions of the cortical substance, and especially at the extremities of the gland; while in cases of complete coagulation, the entire cortical substance was filled, or rather superseded, by the deposition now mentioned, and the tubuli were both compressed and rendered indistinct. In some of the cases which have last occurred, I have also to

mention that the emulgent veins were filled with a substance resembling the buffy coat of the blood, but of a curdy texture." 22.

Dr. Osborne has remarked that this disease, like many others, has varied in its frequency at different periods—probably in consequence of peculiar states of the atmosphere.

"The force of the circulation in this disease appears to be depressed by the action of some specific agency not as yet ascertained. The surface and extremities are uniformly cold—the latter being either livid or pallid; and, on reviewing my collection of cases, I find that in all of them the pulse was low, undulating, and ranging from sixty to ninety, except when they were complicated with inflammations; and that in those cases it was considerably less frequent than usual." 27.

And again:—

"The perspiration was either completely extinct, or confined to occasional breakings forth in the head or chest, the palms of the hand, or soles of the feet. The skin was dry and shining, harsh to the touch; and, on examining it with a lens, the usual eminences belonging to the orifices of the follicles were no longer to be found, and the orifices themselves were hardly perceptible, except when they appeared like black dots, in consequence of being filled with the residue of old secretions.

Whenever general perspiration came on, either spontaneously, or in consequence of medicine, then the cases always terminated favourably." 27.

Our able author has entered into various physiological and pathological disquisitions respecting the function of perspiration, and the injurious consequences of its interruption or suppression; but these we must pass over. He must be an inattentive observer and a bad physician, who can undervalue the functions of the skin! Indeed, it is not improbable that one-fourth of the diseases of the human race originate in checked perspiration.

"On reviewing the causes of the disease in thirty-six cases, in twenty-two individuals it could be directly referred to suppressed perspiration. One of these was Thomas Leahy, a remarkably vigorous man, in his thirty-fifth year, of sober habits. It appears that he was inconvenienced by the excessive perspiration of his feet, and that at the suggestion of a friend he wore fuller's earth in his shoes in order to repress it. The effect was immediate. The perspiration ceased not only in his feet, but also in every part of his body. Diarrhœa soon came on; and, when this was subdued by appropriate remedies, universal œdema, with coagulable urine, succeeded. Although, under the treatment adopted, the œdema was removed, yet the healthy action of the skin was never restored, and I am informed that his dropsy returned. In another of those cases, the commencement of the disease was attributed to cold bathing: but the most frequent cause of it was remaining in wet clothes. As the excitement consequent on the suppressed perspiration takes place in the secreting portion of the kidney, and neither in the *tubuli*, nor in the membranes, no acute pain is perceived; and the patient is usually barely sensible of a weight in the loins, or of a thrilling sensation shooting down the thighs. Hence has arisen the obscurity which has attended the formation and establishment of this organic disease. The next frequent cause is the abuse of diuretic drinks and medicines. Of the thirty-six cases, ten occurred in confessed drinkers of ardent spirits. One of these was able to follow his trade, until the circumstances attending the fire at the Custom House afforded him an opportunity of indulging his passion for liquor. After drinking whiskey out of his hat to an extent which he was unable to define, he lay on the ground

in a state of insensibility till late on the following day; and in addition to dry skin and urine frothing by heat, he exhibited a complication of ulceration of the larynx, enlargement of the liver, and violent neuralgia of one of the frontal nerves. Yet in this individual the perspiration was restored, and he was freed of the œdema, and much relieved in all other respects. The confessed drunkards in my list of cases are limited to ten; but if we could ascertain the truth respecting the mode of life of all our patients, there is no doubt that many more would have been added to this number." 33.

Diuretic medicines have also appeared to our author to be a frequent cause of the disease. Squills and the diuretic salts, though of the utmost importance in many thoracic affections, become, if long continued, the means of producing over-excitement of the kidneys, and thus a reproduction of the disease for which they were first exhibited.

"With regard to the influence of other diseases. Of the thirty-six patients, four were scrofulous; three laboured under pericarditis; and three under valvular disease of the heart. This last connexion has been placed in rather a prominent point of view by Dr. Bright. In my cases, the two diseases appeared to be combined only by both being the result of one cause, namely, suppressed perspiration; and a great number of valvular diseases of the heart have occurred to me without any disease of the kidney, except the usual deficiency in secreting power; which, as a necessary consequence of impeded circulation, comes on towards the fatal termination of such diseases." 34

Again:—

"Of the thirty-six patients, eighteen laboured under bronchitis, in different degrees of intensity; eleven had gastro-enteric inflammation, denoted by thirst, vomiting, or diarrhœa; and the two diseases were in six instances combined in the same individuals. Thus it appears that nearly two-thirds of the entire number laboured under inflammation of the mucous membranes. It is also to be observed, that in every case, before improved by treatment, the appearance of the mucus in the urine was such as belongs to irritation of the bladder and urinary passages, not forming a transparent cloud in the lower part of the vessel, as in health, but collected into dense opake flakes, and, for the most part, resting flat on the bottom of the vessel. The co-existence of those affections with the disease in question is best explained by this circumstance—that they are all the effect of the one cause, namely, *obstructed perspiration*." 36.

The fatal cases amounted to nine, and four of these were confessed whiskey-drinkers. In almost all our author's fatal cases, life was terminated by a low form of arachnitis, as proved by dissection.

"Thus it appears, both from the causes as related in the history of the individual cases, and from the average number of the accompanying affections, that this disease is connected more especially with suppressed perspiration, than with any other known agency; but that it may also be produced by excitement of the kidneys from spirituous liquors.

Subsequent observations have convinced me that it is produced *in the most decided manner by a combination of both*, as when an habitual drinker is exposed to a long-continued application of cold." 40.

The treatment may be easily gathered from the foregoing observations. It consists chiefly in the warmth of the bed—purgatives—(avoiding diuretic aperients)—diaphoretics—warm baths—diluent drinks—bloodletting—and counter-irritation. Mercury was not found beneficial. We strongly recommend this little brochure to the attention of our brethren.

Periscope;

OR,

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcunque potest, atque addit acervo."

I.

SPIRIT OF THE ENGLISH PERIODICALS, AND NOTICES OF ENGLISH MEDICAL LITERATURE.

FATAL ABDOMINAL DISEASE OF INSIDIOUS ORIGIN. BY JAMES JOHNSON, M.D.

A YOUNG lady, aged 23 years, of active habits and cheerful disposition, had occasionally complained, for nearly two years past, of some pain in the left side of the abdomen; and for the last six months, she felt enlarged in that region, which she attributed to fat, and bewailed this precocious corpulency. During the greater part of September, 1835, she had been with her grandmother in the country, whence she returned to town on Saturday the 19th of September, in as good health and spirits as she had ever enjoyed in her life. On the succeeding Tuesday (Sept. 22d) she was seized with pain in the abdomen, and some sickness at stomach, for which she took a dose of castor oil. She was not much relieved, and next morning (Wednesday) she sent for Mr. Hunter, of Hart-street, Bloomsbury, who found her with obstructed bowels, tenderness and tension of the abdomen, and nausea. She was leeched—calomel and opium were exhibited, and purgatives were given. Mr. Hunter declares that plentiful fæcal evacuations were procured on the Thursday and Friday—after which nothing like fæculent matter was passed, till Tuesday the 29th of September, when Dr. Johnson was called in. The abdomen was now much enlarged, tense, tender, and the greater part of it, especially in the inferior and left side, was solid on percussion. The superior parts were tympanitic. Nausea and vomiting were frequent, the pulse was quick, and the countenance dejected. Leeches were freely applied to the abdomen—fomentations—repeated injections—and small doses of calomel, with effervescing draughts were administered. On Wednesday (30th) she was bled from the arm, till a tendency to syncope took place. The blood was highly inflamed. No passage could be procured through the bowels by any medicine or enema. On Thursday the 1st of October, however, there were twelve or fourteen evacuations, decidedly fæculent, and it was hoped by some of the medical attendants (for there were now three or four) that as the obstruction had given way, there was some prospect of recovery. The enlargement and tension of the abdomen remained unabated—sickness continued—and prostration of strength was on the increase. She died at seven o'clock on Friday morning, October the second.

Examination. At half past seven in the evening of the day she died, the body was examined by Mr. Henry James Johnson, in presence of Mr. Hunter, Mr. Andrews, Dr. Johnson, and another gentleman. On opening the abdomen, the omentum was found adhering, in several places, to the peritoneum, and the whole of the latter membrane was sprinkled with melanotic deposits, varying in size, from a small kidney-bean to a millet seed. While separating these outward adhesions, a sac was penetrated, which discharged three or four pints of thin, fætid, seropurulent matter. This sac was very

irregular and extensive, occupying the left hypochondrium and even the pelvis of that side. Its parietes were lined with a very thick layer of coagulable lymph, of old standing, being, in many places, as thick as a penny-piece. A great many convolutions of the intestines were glued together—some by old and unlacerable adhesions—others by recent exudations of coagulable lymph, that were easily torn. The intestinal tube, in many places, was so doubled upon itself, and bound down by adhesions, at such acute angles, that peristaltic motion, in those portions, was almost impossible; and it is difficult to imagine how the fæcal remains could have found their way through such agglutinated tubes! It could only be by the *vis a tergo*, for very little contractile power could have been exerted in the tube itself, in these localities. Between several folds of the small intestines, there were depôts of sero-purulent matter, contained in sacs formed of the original exudations of lymph. Excepting a small quantity of liquid fæces in the colon, there were no accumulations in the bowels. No ulceration of the mucous membrane—no volvulus or intus-susception.

The case is remarkable, as shewing the extent of disease which may obtain, with little apparent disturbance of the general health. Twelve days before this young lady's death, and when three or four pints of sero-purulent fluid existed in the abdomen, she appeared in excellent health and spirits, running up and down stairs, and taking an active part in all domestic arrangements, in consequence of her mother being confined to her room by ill health! The only thing she complained of, and that in rather a jocose manner, was the increase of corpulency; which attracted the notice of the family and friends. The inflammation of which she died, was acute supervening on chronic—a dangerous occurrence at all times. This case illustrates another circumstance which many must have observed, namely, the free evacuation of fæces, after a long and obstinate inflammatory obstruction, and yet without affording any substantial relief. Young practitioners are thus thrown off their guard, and promise recovery to the friends, while the old and experienced attendant suspends his prognosis till he sees whether the fever, sickness, and other symptoms subside, with the evacuation of the bowels.

The dull sound emitted on percussion of the lower and left side of the abdomen led to the conclusion that a large quantity of fæces had accumulated in the colon, and that the intestines were there glued into a mass. There was nothing in the history of the case which would have led the medical attendants to suspect a collection of fluid in a cyst—or at least, in a walled up cavity. There seems to be little doubt that, at some former period, there had been peritoneal inflammation, with some effusion—that the effused fluid had been circumvallated (if the term is allowable) by parietes of coagulable lymph—that chronic inflammation continued in this species of sac—that gradual increase of the fluid took place, by secretion from the parietes of the sac—that some degree of chronic inflammation extended to the peritoneal surface of the intestines generally—and finally, that acute peritonitis supervened and destroyed life.

PARACENTESIS THORACIS IN HYDROTHORAX.

The narrator of the following case very properly remarks that hydrothorax is not invariably the consequence of organic disease of the heart or lungs, and consequently that the discharge of the fluid by paracentesis may sometimes be proper, notwithstanding the sweeping assertion of Mr. Lawrence to the contrary.

Case. W. Roberts, aged 40, of an athletic constitution, was admitted into the Lowestoft dispensary, in August, 1834. He described an attack of apparent pleuritis in the right side, which happened nine months previously. It was neglected for some days, when bleeding and blistering re-

lieved the pain, but left dyspnœa, which became gradually more and more distressing. There was now a noise on succussion of the right side—no respiratory murmur—dull sound on percussion—evident enlargement of that side. The general health seemed good. A puncture was made between the sixth and seventh ribs, and four pints of sero-purulent fluid evacuated. There was an immediate return of bronchial respiration on that side—the dyspnœa was mitigated and the wound healed in a few days. The man returned to his business of sail-making, and enjoyed many months of uninterrupted good health. Three months ago he began to experience a return of the dyspnœa, which gradually increased to an alarming degree, aggravated by habits of intemperance. He was re-admitted on the 29th August, 1835, with all the former symptoms, except the fluctuation. The operation was repeated, and nine pints and a half of fluid (same quality as before) were discharged. The breathing was relieved, the wound soon healed, and again the man was discharged, in apparent good health.

We should be inclined to keep the wound open with a tent, so that the fluid might be drained off as it was secreted from the diseased surface, and thus give an opportunity for that side of the chest to contract, and the two surfaces to agglutinate.

THE PROTEIAN MALADY—(IRRITATION SIMULATING INFLAMMATION.)

This indefinite term has been applied to dyspepsy, hysteria, and to various anomalous forms of neuralgia, resulting from the application of malaria.

Mr. Torbet, of Paisley, has recently published in our respected northern contemporary, two cases and some observations, which may fairly come under the head allotted to this article. We shall briefly abstract one of the cases.

Case. Miss ——, aged 15, of precocious growth, experienced, in the Summer of 1831, an attack of cough and hoarseness, which caused some alarm, but yielded to treatment. In October of the same year, she had a severe attack of typhus, accompanied by bad cough. This, again, was followed by an inflammatory affection of the hip-joint. In February, 1832, palpitation of the heart, with cough, dyspnœa, and quick pulse, was the grievance. The treatment was depletion, rest, and low diet. This plan relieved, but did not remove the symptoms. In October of same year, the family came to Paisley, and the young lady became Mr. Torbet's patient. She looked well, and was loth to acknowledge herself to be an invalid; yet her breathing was quick and short, pulse rapid, and cough troublesome. Various remedies were employed, including digitalis, leeches, and blisters, with little impression on the cough. There was no expectoration. It had a "harsh, ringing, whizzing sound," attended with palpitation, and sense of globus hystericus. From 40 to 50 ounces of blood were taken from the arm at four bleedings, and within six days. No faintness occurred—the blood was neither buffed nor cupped. Temporary relief was obtained by each venesection. On the 5th November, a violent fit of retching occurred. This was attributed to large doses of opium which she had been taking. The cough persisted, with little respite, day and night, being hollow, barking, and so violent as to threaten the bursting of a vessel. Still she did not emaciate, the eye was bright, the tongue clean, and the bowels open. Dr. B. of Glasgow, was called into consultation, and considered the case to be disease of the heart. [We find no mention of auscultation, either by Mr. Torbet or Dr. B.] An open blister was ordered, and two grains of conium thrice a day. In January, 1833, the report was, that the distressing cough has now nearly subsided—the pain and palpitation had diminished. *Per contra*, however, she now was affected with severe headaches, ending in retchings, occurring every second day. Hydrocyanic acid was then substituted for the conium, and augmented till she took

five drops three times a day. She also took two grains of opium every night, and a dose of quinine thrice a day. Oxide of bismuth was substituted for the quinine; but with little advantage. At the end of February, the cough had disappeared, together with pain and palpitation, though she could not lie on the left side. The headache and retching continued with great obstinacy. Iodine and a strong chalybeate water were employed. Toothache was now added to the list, or rather swallowed up the other symptoms. Still it ended in retching. Five or six teeth were extracted, with temporary alleviation. They were all more or less decayed. Suspicion now fell on the spinal marrow. The back was carefully examined, and was found generally tender and weak, with a tendency to twist in the lumbar region. She was laid in the horizontal posture on a firm mattrass. Leeches, cupping, and a caustic issue. Large doses of the black drop were given. During three months, the symptoms frequently changed their form or seat—but it was only the substitution of one set or series for another. In the beginning of May, the cough was almost incessant, and very violent, with great aggravation of the pain in the back and chest. The black drop gave very temporary relief. In despair, Mr. T. opened a vein, abstracted some blood, and applied a circular blister round the neck. Temporary relief was the result. A statement of the case was submitted to a high medical authority in Edinburgh (Dr. Abercrombie,) who "felt at a loss what to advise." He suggested, however, a course of tonics and purgatives—failing which, he advised stramonium, colchichum, and then nitrate of silver. Sponging, frictions, blisters, and gradual exposure to the open air, were also recommended. The day after this advice was received, hæmoptysis occurred. The usual means were employed, and, on the 26th June, diarrhœa took its turn, but did not last long. The hæmoptysis became rather alarming. On the 14th July, the stramonium was commenced, but seemed to have little effect. The hæmoptysis continued, and increased. There were now evident inflammatory symptoms, and blood was taken pretty freely. It was cupped and buffed. Examination by the stethoscope was now first mentioned; but Mr. T. states that he had used the instrument several times before, without being able to draw satisfactory conclusions. The hæmoptysis continued, with more or less violence, till the middle of August, when violent cramps on the abdomen added to the misery of this unhappy girl. They were accompanied by severe vomiting Mercury was now combined with the stramonium. In about a week, the amazing quantity of fæces daily passed astonished the medical attendants. "Often there was half a chamber-potfull of solid fæces, loose and ill-digested, yellow, granular, and very offensive." It was difficult to reconcile these large egesta, with the small quantity of ingesta. But we find it impossible and unprofitable to follow the narrative of this extraordinary case. Suffice it to say, that there is scarcely a disease in Cullen or Good's Nosology, which had not its type or representative in the person of this poor young lady—catalepsy not excluded. CHANGE OF AIR appears at length to have been the sovreign remedy, though she is yet far from well. A removal from the miasmal grounds about Paisley, to the bracing breezes of Stirlingshire, effected wonders—and this long-afflicted damsel may yet regain her health.

The following observations are worthy of notice.

"*Neuralgia*, a term which I use as synonymous with spinal, ganglionic, or cerebral *irritation*, may attack any part of the nervous system, from the minute fibrils spread on the organs of sense, to the great nervous centres. The two cases subjoined, I regard as examples of the phenomena occurring when the centres of the system are attacked. In attempting a general outline of such diseases, it is vain to look for any thing like unvarying regularity of symptoms. We know nothing of the exact morbid condition giving rise to the symptoms. It may be of various kinds; and, besides, in so delicate and complex a tissue as the nervous system, we may ea-

sily conceive, the many modifying and controlling circumstances, that cannot fail to occur, in each individual case, when that system becomes the subject of morbid irritation, and thus vary the external phenomena. But though systematic exactness be out of the question, it is still possible to give something like a characteristic outline.

Of the diseases in question females frequently before, sometimes after, puberty, are the most usual victims. The individuals are of what is called irritable constitution—a peculiarity, moreover, in some instances, distinctly hereditary, and connected more or less with strumous diathesis.

The morbid train of neuralgic symptoms is most usually set in operation either by a serious inflammatory or febrile disease, by excessive fatigue, or by injury, as from a heavy lift or severe fall. The severity and variety of diseases to which the individuals appear to be liable might almost characterize the affection. You are astonished to hear of their violent illnesses, the powerful remedies that are applied, and the rapidity with which they shake off these attacks. In severity, their diseases resemble those of no other person. They are paralytic, blind, speechless, without food, and without sleep for weeks or months, and yet they do not *die*.

Is the *head* the organ affected? They have headach, of which no words can convey an idea, ending perhaps in insensibility, or there is a heavy weight pressing down their eyelids, a tight bandage compresses, or hammers beat within their head, bells ring in their ears, vertigo and sickness overpower them, noise and light disturb them.

Is the *chest* affected? A sepulchral cough, each fit of which seems to threaten existence, over which medical art seems to possess no control, harasses from morning till night, and night till morning. There is excruciating pain in the chest, especially during the cough, which is perfectly devoid of expectoration. There is a feeling of swelling and choking at the under part of the neck, tremendous palpitation of the heart; the pulse is quick and agitated, but varying greatly with the severity of the cough; and the heart's pulsations seem to occupy the whole left side of the chest.

Is the *digestive apparatus* the seat of disease? Then ensue vomiting without apparent cause; incessant retching for hours, occurring perhaps every day for weeks, without any thing being vomited: no appetite; unquenchable thirst; occasional severe pain in the belly, or muscular cramps; and costiveness alternating with diarrhœa—the stools unaccountably copious.

Are the *organs of voluntary motion* the parts attacked? There are then cramps, prickling or numbness, sometimes severe spasms, liker tetanus or hydrophobia than any thing else, ending possibly in catalepsy, or paralysis of one or more limb ensues.

Such is an epitome of the symptoms of the more violent cases; but almost endless variety must of necessity occur, according as the several nervous centres are affected and their affections modified, by individual circumstances. It is precisely from this variety and anomaly of appearances, that practical men are apt to be misled. The most marked symptoms are apparently so distant from, and unconnected with, nervous irritation, and are moreover so violent and similar in their character to pure inflammatory diseases, that there is great risk of our chief curative efforts being directed to the appendages and coincidents, instead of attacking the disease itself."

This is all very well. But how are we to get at the disease itself? How are we to get at its seat, if in the ganglionic system of nerves? That system is, as it were, withdrawn from our reach. In attacking the spine, we assail the system of voluntary nerves more than we do the involuntary; and, therefore, when we apply issues to the back, we cannot be certain that their beneficial effects are produced through the medium of the ganglionic nerves.

EASTERN PROVINCIAL MEDICAL AND SURGICAL ASSOCIATION.

We rejoice to see that another provincial medical society is formed for the purpose of uniting the practitioners of Cambridge, Essex, Huntingdon, Lincoln, Norfolk, Suffolk, and other eastern counties, in one common object—the promotion of medical science, the respectability and harmony of the profession, and the publication of transactions. It is nearly on the same plan as the Western Provincial Association, and promises to be of great utility. It appears to have been set on foot through the instrumentality of that zealous and talented member of our profession, Mr. Crosse, of Norwich. The first meeting is to take place at Ipswich, early in June next, when the society will be fully organized, and actual proceedings commence. Mr. Crosse made an eloquent speech at Bury St. Edmonds, in September last, when upwards of 70 medical gentlemen were assembled, in consequence of a public requisition. We have no doubt that this association will rival its parent institution in the West, and that great benefit will accrue to science and humanity from the conjoint labours of so many individuals.

PUNCTURE OF THE BLADDER ABOVE THE PUBES.

The following interesting case is published by Dr. Geddes, in the first number of his "NORTH AMERICAN ARCHIVES."

Case. "Thomas Oliphant, aged 28, by trade a carpenter, was admitted into the Baltimore Infirmary, on the 24th of August, 1832, laboring under a total suppression of urine, which had existed about forty-eight hours. His bladder was distended into a large round tumour, which projected considerably above the symphysis pubis; his whole abdomen was extremely tender to the touch; his pulse frequent and small, and his skin covered with a cold clammy sweat. His whole aspect indicated extreme suffering, and his condition excited much apprehension for his safety.

The account furnished by himself of the origin of his disease was, that some weeks before, whilst engaged in his occupation, he slipt and fell from a height, astride of the edge of a plank, which struck him across the perineum, immediately in front of the anus, bruising the part violently, and occasioning a temporary stoppage of his urine. From this latter he partially recovered in a few days, in proportion as the inflammation subsided; but although able to relieve his bladder, the urine did not flow freely, and he frequently experienced considerable difficulty in passing it. After the lapse of some time this difficulty increased, until it finally amounted to a complete suppression, to obtain relief from which, he entered the Infirmary in the condition already described, unsuccessful attempts having been previously made by his medical attendant to pass the catheter.

On passing an instrument down the urethra, I found the obstacle to be situated immediately behind the bulb, and in the membranous portion of the canal, where the parts seemed to be much indurated, and presented a solid point of resistance both to the instrument and the finger. This induration seemed to reach backwards to the extent of several lines. Various attempts were made to overcome the obstacle, but all of them were fruitless. The patient was then put in a warm bath and bled ad deliquium, after which the attempts to pass the catheter were renewed, but with no better success. Laudanum was administered in large doses both by the mouth and anus, but still the obstacle could not be surmounted. The patient was then left for a couple of hours, with the direction to keep the whole abdomen covered with warm anodyne fomentations, and to have a large anodyne enema. On my return, I renewed the efforts to introduce the catheter; but the obstacle was full as formidable and unyielding as before. The sufferings of the patient being extreme, and his danger hourly increasing, I determined to resort immediately to the puncture of the bladder; and as there was no

trocar at hand by which the puncture could be made in perineo, I proceeded to perform the operation above the pubis, in the following manner:—A sharp pointed bistoury was thrust directly backwards into the bladder immediately above the symphysis pubis and upon the lower part of the linea alba. A female catheter was then conducted along the blade, through the opening, while the knife was withdrawn simultaneously. The urine was drawn off through the catheter, which was fixed in its situation by means of tapes attached to its eyes and passed round the body. The relief was immediate, and continued, the plug of the catheter being from time to time removed, to draw off the urine whenever it accumulated.

From this time the patient was left to quietude, and such treatment as was calculated to subdue the irritation excited by the disease and operation, until the third day, when every thing being favorable, renewed attempts were made to overcome the obstacle in the urethra. The ordinary methods having been perseveringly tried without effect, I determined to resort to an operation in perineo for the re-establishment of that passage.

The patient being placed in a convenient position, with his thighs flexed upon the pelvis, a silver catheter was passed down to the obstacle in the urethra, where it was held firmly by an assistant, in such a manner as to make its extremity project a little in the perineum, in order that it might serve as a guide for the knife. An incision was then commenced upon the raphe of the perineum, immediately behind the bulb of the urethra, and conveyed backwards in the direction of that canal, as near as possible to the verge of the anus. The skin and integuments being thus divided, I dissected down cautiously upon the end of the catheter, to reach which, it was found necessary to divide a part of the bulb. This point gained, and the direction of the natural course of the passage thus ascertained, the dissection was cautiously continued backwards, through the indurated tract of the obliterated membranous portion of the urethra, with the object of reaching the open portion of the passage posterior to the obstacle. This was not accomplished until the anterior extremity of the prostate gland was reached, where, after some little impediment, the point of the catheter was insinuated into the canal and conveyed immediately into the bladder.

There was no vessel divided requiring a ligature, and after sponging the parts dry, the patient was put to bed, with his thighs placed close together, and the catheter properly fixed in the bladder by means of tapes and a bandage. On the second day after the operation, the silver catheter was withdrawn, and an elastic one introduced without difficulty. Only a small quantity of urine flowed through the wound, and the only subsequent attention requisite was, to change the instrument from time to time, whenever it became foul or obstructed.

The natural course of the urine being thus established, the female catheter which had been introduced above the pubis, was removed, and that aperture closed in two or three days. The wound in the perineum healed kindly, and the individual after remaining in the house some time to ensure the permanent permability of the urethra, was discharged on the 28th of October, perfectly cured."

On Diseases of the Stomach; their Sympathies and Complication.—By Mr. Langston Parker, of Birmingham.

This paper is published in the September number of the Dublin Journal, and evinces accurate observation and clear views of a class of diseases very complicated and obscure in their nature and etiology. The class to which Mr. Parker particularly directs his attention in this paper, is the "*morbid sensibility*" of Dr. Johnson—the "*nevroses des visceres*" of the French pathologists. Mr. P. justly remarks that the separate textures of the stomach may be the seats, separate seats of the causes of impaired digestion, in addition to which "the vascular and nervous systems entering

into the composition of the organ may be in this, as in all other parts, separately the seats of disease, so as to render the affection of one order of parts the predominant feature of the disease." Mr. P. then proceeds to illustrate the following position, by a series of cases.

"Morbid sensibility of the stomach and intestines, gastralgia or enteralgia, are terms made use of to designate a state of disease in which the mucous surfaces of the alimentary canal are painfully sensible to impressions which in a healthy condition they do not perceive; these impressions, by the exaltation of nervous sensibility which accompanies them, materially deranging the functions of those organs in which they are seated, and by their reaction upon the economy at large, producing sympathetic diseases of great variety and importance.

Morbid sensibility may occur either as a primary affection or succeed to attacks of an acute inflammatory character, whence it is apt to be mistaken for a recurrence of the inflammatory disease."

Case 1. A delicate lady, aged 23, had a painful affection of the stomach after taking food of any kind, accompanied by acid eructations, and slight constipation. It had been of only three weeks' duration, and yet induced considerable emaciation. She had profuse night-sweats, with cough, and great depression of spirits. The chest exhibited no evidence of disease, when examined by the stethoscope; but the epigastrium was slightly sensible to pressure. She was put on farinaceous diet, and took a preparation of rhubarb, aloes, and morphia, with hydrocyanic acid. She recovered in a fortnight, and was able to eat any kind of food.

Case 2. A lady consulted the author for a painful affection of the stomach, whose features were precisely the same as those detailed above. She had had an acute inflammation of the stomach 14 months previously, preceded by symptoms similar to the present ones. The same diet and medicine as were given in the preceding case, and in ten or twelve days she was able to take food without inconvenience.

These two cases are adduced as "the simplest forms of morbid sensibility;" but from this we dissent. There are many grades and shades of morbid sensitiveness in the gastric nerves below the point of actual pain, and where a host of wretched sensations are experienced, of a mental rather than corporeal character, of which neither physician nor patient can give any intelligible description. In fact no medical man becomes acquainted with the subject till he has experienced the miseries of indigestion! Mr. Parker has not fathomed half the depths of this Proteian malady.

Mr. Parker traces sympathetic affections of the chest much more frequently to disorder of the stomach than we have been able to do. At the same time we do not deny that the one may be a consequence or sequence of the other.

Case 3. A delicate man, aged 32 years, had been subject for six months to pain in the stomach on taking food, which is occasionally rejected by vomiting. His state on the 3d July, 1834, was as follows: countenance anxious, skin cold, breathing hurried, constant cough, expectoration of mucus. *The chest was examined by percussion and auscultation, and found to be apparently healthy.* To this we demur. It is impossible that there can be constant cough with expectoration of frothy mucus, independent of a catarrh of the mucous membrane of the air-tubes. But to proceed:—there was great tenderness at the epigastrium, confined to a small surface. The food was constantly rejected with great pain — tongue coated—papillæ red and enlarged — pulse hurried and bounding— urine high-coloured and scanty. Six leeches to the epigastrium, and afterwards a blister. Rhubarb, acetate of morphia, and hydrocyanic acid were prescribed. Farinaceous diet. On the 7th, it was found that the food remained on the stomach without pain. The cough was gone, and the pulse was reduced. He was well by the 15th of the same month.

Case 4. This was a complication of morbid sensibility with acute inflammation.

"A lady, some months since, three days after parturition was carried out in her chemise, and laid upon the grass, in consequence of her house taking fire. Since then she has been constantly troubled with acute pain after taking food, which is constantly rejected by vomiting.

Present state, five months after the exposure:—great anxiety of countenance; extreme weakness; constant pain in the stomach, increased by pressure to agony; cold skin; small quick pulse; relaxed bowels; stools dark and offensive; incessant cough, with abundant frothy expectoration. (Chest examined by auscultation and percussion, apparently healthy.) Under a treatment composed of local depletion, blisters, the acetate of morphia, and hydrocyanic acid, this patient speedily recovered."

After such an exposure as the above, we can see no reason why the pulmonary affection should not be engendered by cold, as well as the gastric.

After detailing some other cases, Mr. Parker goes on to remark on sympathetic affections of the brain, heart, &c. consequent on irritation of the gastric nerves. He then gives a case of—

"*Gastrodynia with Hallucinations, and Disposition to Suicide.*"

A gentleman had uneasy sensations in the stomach, increased after meals, with occasional vomiting, distention, acid eructations, and some epigastric tenderness. Leeches and blisters relieved him for a time; but Mr. P. was afterwards summoned to the patient, who was found to be labouring under great mental uneasiness, pain in the head, heat about the temples and forehead, acute pain in the epigastrium, frequent vomiting of acid fluids, pinched and anxious countenance, cold skin, frequent pulse, tongue coated, and red at the tip. The paroxysms of pain after eating are now terrible, till the stomach has rejected the food. His nights are restless and his dreams distressing. When awake he is harassed by hallucinations of various kinds, the chief of which is a blackbird flying against his head with great force, and producing, as he thinks, the headache. In the day time he has an almost irresistible propensity to suicide. He was confined to farinaceous food, had leeches to the temples, and took infusion of cascarilla, magnesia, tincture of aloes, and liq. opii sed. every four hours. There was no hallucination in the night after the leeches, and the suicidal propensity was diminished. A day or two afterwards, he injudiciously dined on animal food, which was followed by an exasperation of all the symptoms. A blister was applied to the epigastrium and the same remedies continued. He gradually improved; but had a violent relapse after imprudence in diet, from which, however, he recovered. We agree with the author that "the hallucinations were strictly dependent on the morbid sensibility of the stomach."

"The importance of restricting the patient to a pure farinaceous and unstimulating diet, during such affections as the present, is well illustrated by this case. As long as the food is mixed or stimulating, no medicines will afford relief; and if a plan of diet of this kind were established, or an irritating medical treatment employed, the patient would inevitably either become deranged or commit suicide."

Mr. P. proceeds to state some cases of epigastric pulsation, which he attributed to morbid sensibility of the stomach.

Case 5. A lady, aged 40, had menstruated irregularly for three days past. Her food occasioned great pain, accompanied by nausea, and sense of great distention. There was also a sense of rolling in the stomach, with intense acidity. Carbonate of magnesia relieved these symptoms, with the aid of a blister. Great despondency succeeded, with indescribable sensations in the stomach—nausea, and sometimes vomiting. There was a strong pulsation in the epigastrium, evident to the eye, and accompanied by dull pain increased by pressure. Skin hot and dry. Every kind of medicine increased the pain.

Leeches were applied every other day for six days, and then blisters. The more urgent symptoms yielded to this treatment; but the mental depression, pyrosis, and occasional vomiting continued. "Hard farinaceous food" was the only aliment she could bear.

Another case is shortly stated in which pain after food was complained of, with occasional vomiting and epigastric tenderness. There was constant and strong pulsation in the epigastrium, visible to the eye. These symptoms disappeared after a few applications of leeches and blisters.

In a succeeding case a lady was attacked with typhus fever, and, in the course of convalescence, the stomach became so irritable and painful on taking food, that it was impossible to take sustenance. "The mental uneasiness accompanying this state was distressing in the extreme." She rolled from one side of the bed to another, constantly complaiming of her stomach, for some weeks. Yet the tongue was clean, the pulse quiet, skin cool, and no increase of pain in the epigastrium on pressure. Opiates, alkalies, and tonics aggravated the uneasiness. Carbonate of iron was exhibited, but "its effects were frightful." Medicines were omitted altogether; the patient was removed into the country—"the mildest food, in very small quantity, was given, and after a long time, she recovered." We have seen many cases of this kind, and they have been truly denominated "MORBID SENSIBILITY of the stomach and bowels." We are unable to pursue the cases detailed by our author; but shall make room for his general conclusions.

"*Recapitulation.*—It will be at once seen, from a perusal of the sixteen cases I have detailed, that although they were analogous in one great point, that of disease of the stomach, they were in most others very variable. We find the simplest forms of disease commencing in mere uneasiness, hardly amounting to pain after taking food, and thence progressing into violent gastrodynia, to sympathetic affections of the organs of respiration, in three instances terminating in acute inflammatory diseases. In seven cases, the organs of respiration were the seat of either nervous or vascular lesions, consequent upon the stomach disease. In four cases, mental disturbance was present, in one instance producing hallucinations, and disposition to suicide, and a degree of despondency almost approaching the insane state in the other three.

1. *Complication with Gastritis.*—In two cases (III. and IV.) the disease, (i. e. the morbid sensibility, or irritability of the stomach or gastrodynia,) was evidently complicated with inflammation, and in two others (V. and VI.) it succeeded to a lesion of this character. The latter circumstance at once stamps it as an affection of a distinct character from inflammation, although it is frequently complicated with, and inflammation is frequently produced by it. Where morbid sensibility has been present many months, it sometimes becomes complicated by sub-acute or chronic gastritis, and in these instances much more circumspection is requisite in ascertaining clearly the history of the disease, and in applying the remedial agents, than in any other form of stomach complaint. Here a combination of treatment is required; an antiphlogistic, and a sedative one, and while a moderate local depletion is absolutely necessary on the one hand, the internal remedies should be of the character made use of in the details of the preceding cases. Whilst we are leeching the epigastrium, the internal treatment cannot be too mild, or unirritating, but must be varied, of course, to suit the particular circumstances of the patient.

2. *Lesions of the Respiration.*—In seven out of the sixteen cases related, lesions of this character were observed; in the more simple forms, we had present merely spasmodic cough, and hurried breathing; in others, frothy expectoration; in one, bloody expectoration; in two, pneumonia. In most, no physical sign of disease of the respiratory organs was present, in two, slight râles accompanied the cough, and in two others the physical signs of pneumonia were unequivocally present. In all, the lesions of the respiratory organs

disappeared, as the disease of the stomach was mitigated or cured.

3. *Lesions of the intellectual Faculties, and of the Senses.*—These lesions were observed in four of the cases I have detailed, and chiefly consisted in impaired judgment, and excessive despondency: in one, the disposition to suicide was almost irresistible; this case was also remarkable for hallucinations of the sense of vision. I have, in the remarks on this and other cases, alluded to instances in which the same lesions of the intellectual faculties have terminated in actual and confirmed insanity. All these affections of the mind were in strict relation to the degree of the morbid sensibility of the stomach, and were aggravated, and subsided with it.

4. *Lesions of the Circulation.*—These chiefly relate to the pulsations in the epigastrium, observed in three of the cases. I do not know to what exact pathologic condition to refer these pulsations. They were all accompanied by local determination of blood, and heat in the epigastrium, but the symptoms which accompanied them certainly did not resemble pure gastritis. My own conjecture is, that they are owing to irritation of the great nervous ganglia, and plexuses of the epigastrium, lying behind the pyloric portion of the stomach, and ramifying upon the vessels of the cœliac axis, and arterial system of the abdomen generally; for in one instance the pulsations might be followed along the course of the aorta to some distance. Whatever might have been the primary nature of these irritations, they were evidently accompanied by increased local vascular action, and were relieved in all the examples by depletion; in all they ceased on the subsidence of the stomach disease."

These cases are deserving the attention of the profession. We have seen such deplorable effects from the routine practice of tonics and drastic purgations by some—and inordinate depletion by others, that we cannot too strongly urge the necessity of cautious discrimination on the part of the practitioner. Mr. Parker certainly has not investigated with sufficient care the etiology of the complaint. He has not traced these gastric affections, so closely as he ought to have done to their primary sources. If he had done so, he would have found *moral* causes playing a deeper part in their etiology. He has adopted the designation which we were the first to apply to this extensive and afflicting malady; and for this we thank him.

PULMONARY APOPLEXY.

From a volume of hospital cases lately published by Dr. Aldis, we select the following.

"Mary G., æt. 33, admitted *July 17th*, 1833.—Has had seven children, the last born five years ago; the swelling in her legs began three weeks ago. In the winter she felt a severe beating of the heart when she went up a hill or up stairs, and about two months back, a lump began to grow at the pit of the stomach, which affected her breathing. Great action of the heart; dyspnœa; cannot lie down in bed. Pulse intermittent and very irregular, 65, very weak; bowels not open; urine with a reddish brown sediment; catamenia irregular.

A large hard protruding tumor, occupying both hypochondriac and epigastric regions, descending to the right lumbar and umbilical region. Two nights ago a purple eruption broke out upon them.

Note.—I examined the heart with the stethoscope, and found very strong impulse of the right ventricle; there was no bruit, and no increased sound. She suffered from great dyspnœa, and hæmoptysis. On September 3d she made use of a sentence similar to one employed in Aretæus to express the redundant secretion from the skin. She complained the respiration was so great last night that it "seemed as if she had been dragged through a river."*

8th.—Died at 10 P. M.—*Sectio.*—1 P. M.

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* Καὶ ἀπὸ πάντων ὡς ἐν ποταμῷ ἐς τὰ ἔξω ἡ φορή.—Aretæus, p. 42. KYHN.

Thorax.—There was found in the left side of the chest about a pint of bloody serum, and also a small quantity in the right; the left lung adhered firmly to the ribs, and had imbedded in it a hard rugged substance, of the size of a large marble. The lungs were, in many parts, hepatised, of a grey colour, in circumscribed masses and portions so gorged with blood, that it resembled black currant jelly. ("Apoplexy of Lung.") The heart was very large, and firmly adhering, at its apex, to the pericardium. Both ventricles were much dilated, and the parietes of the right somewhat thickened. *The mitral valves were much thickened with a deposit of ossific matter near their opening.* The appendix of the left auricle contained a quantity of hard laminated coagulum, which had nearly lost its colouring matter.

Abdomen.—The liver was very much enlarged and of an unhealthy structure. The os uteri was very much congested, and the substance of the womb, both in cervix and fundus, much enlarged and hardened, of an uddery consistence.* Its cavity was very small. There were many dark superficial ulcers in the upper part of the vagina.

Remarks.—A paper was read at the Royal College of Physicians, London, in 1829, showing the dependence of pulmonary apoplexy on disease of the mitral valves. Three cases, which occurred at St. George's Hospital, were brought forward to support the author's views. Hæmorrhage from the lungs is very common in apoplexy of the lungs; the blood is propelled from the right ventricle of the heart through the pulmonary artery, it is then brought to the left auricle by the four pulmonary veins, and from thence it enters the left ventricle. The mitral valve, when thickened with warty vegetations, &c., is incapable of performing its office, the blood regurgitates, hæmorrhagic indurations are formed in the lungs, and expectoration of blood is the consequence." 114.

* Not schirrous, because not gristly, a state of the womb, I believe, not described in books.

Anæmia.

Dr. Geddes has published some cases of Anæmia, in the first number of his Archives, from which we extract the following one.

"Charles Winn, seaman, aged 18, was admitted into the Baltimore Infirmary, July 30th, 1834. He was born in a malarious district of North Carolina, and from his earliest youth has been annually subject to intermittent fever, until two years previous to his admission, during which time he has led a seafaring life.

The whole body at the present time is exsanguined, more or less mottled, and of a pale waxen hue. His cheeks and ankles are œdematous; the abdomen tumid; adnata of the eye of a pearly lustre; lips, gums and tongue blanched, and the latter pointed; muscles flaccid; body emaciated; digestive powers partially impaired; respiration much disturbed, the least exercise occasioning hurried and oppressed breathing, and if continued producing speedy exhaustion. The heart palpitates violently even when lying at rest, and there is tumultuous throbbing of the carotids and other large vessels about the neck. The pulse is also frequent, and presents a peculiar *shattered thrill.* The liver and spleen are perhaps enlarged, but the effusion of water into the abdomen renders it difficult to decide by exploration. Massa. Pil. Hydrarg. gr. iij. Pulv. Soc. Aloes, gr. j. Pulv. Ipecac. gr. ss. every night. Carb. Ferri, gr. x. three times a day. Generous diet with porter.

Aug. 10. The improvement of his general health has been steadily progressive. Tongue and lips slightly reddened—abdomen less tumid. The œdema of the cheeks and ankles has lessened, digestive function invigorated, and the evacuations more healthy.

Aug. 25. Still improving. Tinct. ferri muriatis substituted for the carbonate of iron. Alterative pills to be continued.

Sept. 11. All the prominent symptoms of the disease have yielded, in a great measure, to the treatment. Tongue and lips more colored; the tumefaction of the abdomen has entirely subsided,

as has the œdema of the cheeks and ankles. The palpitations of the heart, and the excessive throbbing of the vessels are no longer perceptible. His pulse is regular and full, and he is able to bear considerable exercise without fatigue." 41.

INTESTINAL CONVULSIONS.

A fatal case of this kind is related by Dr. M'Leod, of Bridlington, which is worthy of notice. A child, three years of age, ate a large quantity of fruit during a very hot day. In the evening Dr. M. found her labouring under pain and tumefaction of the abdomen, with pallid countenance, quick pulse, white tongue, urgent thirst, knees drawn up to the abdomen. Convulsions came on and followed each other in quick succession. The warm bath was used, and calomel and rhubarb were given; but without any good effect, and the child expired in a strong convulsion early next morning.

On dissection, there was found a quantity of half-digested unripe fruit and peas, in the stomach, which was also much distended with air. There was no appearance of inflammation. The whole of the intestines were remarkably distended with fætid gas. They were free from inflammation. The cystic bile was "dark-coloured and unhealthy." There were no morbid appearances in the brain or other viscera.*

Dr. M'Leod's ratio symptomatum, or pathology of the flatulency, is rather curious. "A healthy flow of bile is unquestionably indispensable to the peristaltic motion of the intestines; and, on the other hand, a *vitiated secretion of that fluid must retard their vermicular motion*, and tend to detain acrid alimentary substances in the duodenum, &c." "The accumulated exposure to animal heat consequently occasions the acetous fermentation, the disengagement of gas, excessive *pressure* on the extremities of the superior mesenteric, and branches of the solar plexus of nerves which enter the viscera of the abdomen, and sympathetic affections of the limbs and other parts of the body, producing convulsions, and such depression of all the powers of the system, as, unsubdued, must terminate fatally."

From some attention to the subject we can assure Dr. M'Leod that a healthy flow of bile is not *indispensable* to the peristaltic motion of the intestines, since we often see the bowels perfectly regular in the most intense jaundice. On the other hand, so far is vitiated bile from causing torpor of the bowels, that it is one of the most efficient causes of bowel complaints. We think Dr. M'Leod has refined very much respecting the causes of death in the above case—namely *pressure* on the splanchnic nerves, in consequence of the flatulence. To us the cause of death appears to have been the irritation of unripe and undigested fruit in the *stomach*, inducing convulsions by the well-known sympathy between the *brain* and that organ. The child, in fact, was poisoned, and presented most of the phenomena of poisoning, except vomiting. And here we would venture to suggest the propriety of exhibiting an emetic under such circumstances as the foregoing. We cannot but think that the dislodgement of the irritating matters from the stomach, in the above case, might have afforded considerable chance of recovery.

PROVINCIAL MEDICAL EDUCATION.

We are gratified to learn that the system of provincial medical education proceeds in an encouraging manner, especially in the larger towns, as Manchester, Birmingham, Liverpool, Bristol, &c. None but an ignoramus or a thorough-paced monopolist will deny that excellent clinical instruction may be afforded in large provincial hospitals. In the present state of things, indeed, we do not think that a surgeon's education ought to be considered complete,

* Lancet, 19th Sept. 1835.

without some metropolitan study and observation, more especially as regards anatomy and operative surgery. But we are clearly of opinion, that the hospitals and infirmaries of the large towns throughout the Empire will very soon be so organized, as to afford all but the full accomplishment of a complete medical education. The following extracts from a very sensible and well-written introductory discourse, delivered by Dr. Bardsley, at the commencement of the tenth session of the Manchester School of Medicine and Surgery, 1835, will bear us out in these remarks.

"This vast and wealthy commercial town, inferior to none in the enterprise, industry, and mechanical ingenuity of its inhabitants, embraces, according to the census returned to Parliament in 1831, together with Salford and the adjoining townships, a population of upwards of 270,000; and we are all aware of the prodigious addition made to that number during the last four years. Within the circumference of twelve miles are also situated the flourishing towns of Stockport, Bolton, Oldham, Rochdale, Ashton-under-Lyne, Bury, &c. each containing many thousand inhabitants, and contributing its share of disease to our different charitable institutions. It must also be recollected, that this active population is constantly engaged in manufactures, and therefore liable to those frequent severe casualties, of which machinery is almost unavoidably the fruitful source. Many accidents, too, attended with danger to life or limb, almost daily occur amongst that numerous class of persons engaged in building, and in the neighbouring collieries. Here, then, Gentlemen, a field presents itself for the study of medicine and surgery, unequalled in the extent and variety of its soil, requiring for its cultivation many diligent and enterprising husbandmen, and repaying by its practical fertility their labour, humanity, and skill."

"Most of the large towns in the provinces now possess general hospitals and infirmaries, established upon the most liberal and extensive principles. In this respect, Manchester is most favourably circumstanced. Amongst other noble monuments of public beneficence, the Royal Infirmary stands pre-eminent, both as regards its early foundation and the extent of its usefulness. In its general management and internal discipline, it will bear comparison with any similar establishment in the kingdom: and whilst the names of Percival, White, Ferriar, Bardsley Senr., Simmons, Home, Henry, and Roget, are associated with its medical history, no lapse of time can impair its well-earned reputation. When it is stated, that during the last year the total number of patients admitted on the books of the charity was 19,467, including 4058 accidents; that 135 capital operations were performed in it: and that it is capable of accommodating within its walls 200 patients, no further evidence will, I imagine, be required to shew, that it affords students most excellent opportunities of witnessing disease under its diversified forms, of contrasting the results of different methods of practice, and of becoming intimately familiar with the future duties of their profession."

"The injustice of metropolitan monopoly will be manifest, when it is mentioned, that this extensive Institution does not enjoy equal priviliges respecting certificates of attendance on the surgical practice, with some of the hospitals in London containing scarcely fifty beds. To two applications made by the Surgical Officers of the Infirmary to the Council of the College of Surgeons in 1830 and 34, to have that institution placed on the same footing with the hospitals in London, Dublin, Edinburgh, Glasgow, and Aberdeen, the following was the answer returned by the Court of Examiners of the College: 'We cannot comply with your request, because sufficient time has not elapsed to enable us to form an equitable judgment as to the education of pupils coming from provincial schools.' The profession will judge rightly of the nature of this decision, in the face of the unsolicited testimony given by another Examining Body before a Committee of the House of Commons—'that no class of pupils is better prepared than those who have been edu-

cated solely at Manchester." The spirited memorial of the Surgeons, just noticed, firmly maintains that, owing to the general diffusion of knowledge and increased capability of appreciating useful establishments, the dignity and respectability of the College cannot be preserved without a recognition of such institutions as are acknowledged by public consent to be fully competent to the essential purposes of professional education."

"The contrast between the present and former situation of a provincial pupil, in entering on his studies in London or some other metropolis, must strike every one who reflects at all upon the subject. His mind may be compared to a soil that has first been duly cultivated for the reception of seeds; which having advanced to the growth of young shoots require only time and further training for their full development. According to the former appointed plan, of two winters' residence in London, the greater part of the pupil's time was consumed in obtaining that elementary knowledge of anatomy, and the other branches of medical science, with which he is now familiar before he leaves the provinces; and thus he is prepared at once to take advantage of the more enlarged field of observation presented to his view, and to collect and arrange new materials for further study and reflection. The remark of the Latin Poet is applicable in his case:—'Dimidium facti, qui cæpit, habet.'—'He has half done, who has made a beginning.'

It is obvious, then, that provincial schools, so far from being calculated to supersede, or interfere with the courses of instruction pursued at the metropolis, on the contrary, directly tend to increase their usefulness."

In the above sentiments we entirely agree; and sincerely hope and expect that the generous rivalry of the provincial with the metropolitan teachers, will greatly increase the general amount of medical education, and, consequently, diminish the sufferings of human nature.

On Scarlet Fever. By Dr. Sandwith.

The author was induced to send an extended paper on scarlatina to the Medico-Chirurgical Society—which Society commended the communication, but declined its publication. It was afterwards inserted in our northern cotemporary, and is now re-published, as the first of a series of practical commentaries on some of the most important diseases of children. We shall pay due attention to the forthcoming essays of Dr. Sandwith, knowing him to be an observant and talented practitioner. It cannot be expected, however, that, under the existing circumstances, we can more than very briefly notice the present essay. The following extract is best calculated to exhibit the nature of the pamphlet.

"The epidemic scarlet fever, which it is my task to describe, exhibited the following varieties:"—

1. The majority of cases manifested a high degree of fever, with more or less of delirium, and an intense inflammation of the fauces. With considerable irregularity in the development of animal heat, however, in this, as in the severe epidemic described by Dr. Bateman, the period when cold washing promised to be remedial was soon over; but tepid ablutions were applicable throughout. Whether the brain was more or leas implicaed, the throat almost invariable ulcerated or sloughed, especially when local depletion was inadequately employed, or trusted to alone. In neglected cases of this kind, the extension of the inflammation, from the mucous membrane of the fauces to the excretory duct of the parotid and submaxillary glands, exasperated, doubtless, by the sympathetic irritation dependent on the rapid sloughing of the throat, produced excessive tumefaction of those glands and the surrounding cellular tissue, with consequent mechanical obstruction to the return of blood from the brain. A low fever, with delirium, sometimes slowly, sometimes rapidly, terminated their sufferings. In the latter stages, from the extension of the inflammation to the larynx, this va-

riety was prone to lapse into the fourth, or that of bronchial inflammation. All were not attacked with equal severity, the symptoms being mild in a few instances.

2. In some of the cases gastric irritation, from the extension of the inflammation of the fauces down the œsophagus to the stomach, greatly augmented the danger, by adding to the extent and importance of the inflamed surface of mucous membranes, interrupting the rash, rendering the operation of purgatives more precarious, and exasperating the irritation of the nervous system. Occasionally the whole alimentary canal seemed to participate in the affection of the upper portions. The fatal epidemic of 1793, from Dr. Lettsom's description of it, obviously corresponded closely with this variety. It differed, at the same time, from those described by Drs. Fothergill and Hamilton, because decided affections of the abdominal portions of the alimentary canal were comparatively rare in this epidemic.

3. In several cases active delirium or coma, set in at once, or within a few days, after a delusively mild appearance of the disease. In the former, the excitement ran extravagantly high, the patient singing and raving by turns, until signs of oppression supervened on those of exalted sensibility. In the latter, there was involuntary evacuation of the fæces within a few hours of the attack. The eyes were ferrety in both, but muddier in the latter; in which, also, the skin was cooler, and the rash duskier. In one example which partook of the characters of both these forms of cerebral disorder, there was extreme coldness of the extremities, with blueness of the fingers and lips; and petechiæ mingled with the eruption. Life was extinguished in these cases, within two, three, or, at the most, four days after the development of the cerebral symptoms. The throat was sometimes severely inflamed; at other times the transition of the inflammation to the arachnoid membrane was almost complete. *Subsultus tendinum* occasionally appeared very early.

4. In a still greater number of cases than those of the third variety, a marked bronchial inflammation, with consequent sensorial oppression, sometimes extinguished life with equal rapidity; in other instances, in which it came on later by an extension of the *cynanche tonsillaris* to the trachea, death ensued in a week or ten days. In this form of the disease, the rash was invariably interrupted, faded, assumed a copperish hue, or wholly disappeared. The pulse was quick and feeble; the skin, for the most part, cool; the tongue dry and glazed; and the whole system rapidly laid prostrate.

I also witnessed some clear examples of the disease, which arranged themselves under none of these varieties, but corresponded with the irregular congestive form described by Dr. Armstrong. The most striking features were, the cold stage, with repetitions of it so intense, as to resemble approaching collapse; occasional paroxysms of febrile heat, observing no periodical exacerbations; excessive irritation of the nervous system; the rash faintly emerging and disappearing, but never establishing itself; black and offensive stools: the throat but slightly inflamed; the pulse varying most remarkably in frequency; and the tongue furred with red papillæ, but always moist.

The following were among the most prominent sequelæ of the disease: General dropsy occurred, in a few instances, from exposure to cold during convalescence, but proved manageable. In one instance, not resulting from cold, but obviously dependent on chronic visceral inflammation, hydrothorax supervened, and proved fatal. In one case, a married female, there was inflammation and abscess of the breast. Abscess in the neck, equally annoying to the patient and the surgeon, was a frequent occurrence; but this inconvenience seldom, if ever, arose after general bleeding. Severe epistaxis was controlled, in one case, with difficulty; and the child rallied. Dr. Fothergill, though a humoral pathologist, had the sagacity to guess the true cause of these severe hemorrhages, which point, and not obscurely, to a better pathology. 'It has happened,' says he, 'in this

distemper, that hemorrhage from the nose and mouth have suddenly carried off the patient. I have heard of the like accident from bleeding at the ear; but these fatal discharges most commonly happen after the patient has been ill several days; and it seems more probable, that they proceed from the separation of a slough from the branch of an artery, rather than from the fulness of the vessels, or an effort of Nature to relieve herself by a salutary crisis.—This, I find, was also Heredia's opinion, who considers a discharge of blood, either from the mouth or nose, as a sign of the utmost danger."* Hemorrhage from the intestines attacked another child after the fever had declined; and its removal was followed by purulent ophthalmia. This patient had not been visited professionally in the earlier stages; and it eventually sunk under reiterated irritation. Chronic dysentery appeared in one solitary case, after the subsidence of fever. In another, ulceration and sloughing of the throat, as well as of the leechbites externally, from pure constitutional and strumous debility, continued long after the fever had vanished, as late, indeed, as the fourth week; when an extension of the ulcerative process to the larynx destroyed life by suffocation. The child had been moderately depleted by leeches only; and ammonia, quinine, and wine, were employed in aid of its enfeebled powers."

In the first variety the treatment was, on the whole, successful. In the third and fourth varieties, "the fatality was painfully great, though eventfully lessened by a freer use of the lancet." Several cases are recited by Dr. Sandwith, in illustration, for which we refer those of our readers who have not the Edinburgh Journal in hand, to the present pamphlet. We hope soon to have an opportunity of again ushering Dr. S. to the attention of our readers.

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* Fothergill's Works, p. 312.

ELEMENTS OF BEDSIDE MEDICINE AND GENERAL PATHOLOGY; OR GENERAL DISEASE—DISCOURSE, &c. &c. &c. By J. STEWART THORBURN, M.D. Octavo, pp. 437, Vol. I. Longman and Co. Highley, Nov. 1835.

This is one of the most extraordinary volumes we have ever met with. It is utterly insusceptible of analysis—and we are never very much addicted to mere criticism. It is a kind of granary filled with extractions or digestions rather than selections from various authors who have written on semeiology, pathology, clinical medicine, &c. in France especially. The works, therefore, of Landre-Beauvais, Chomel, Ratier, Rostan, Serre, Cayol, Dance, Bricheteau, Dubois, &c. &c. have been laid under contribution, and much of their valuable contents have been distilled through the English author's alembic, for the benefit of the English student.

"By quarrying the chief facts and views contained in the subjoined range of select authorship, and working them up in accordance with a digested plan, I trust I have succeeded in architecturing a literary edifice, which may be considered, in some degree, worthy of being occasionally tenanted by the mind of the clinical student of this country."—*Pref.*

The materials, as we before observed, are very valuable; but we suspect that many will find fault with the architecture, and not a few will be unable to comprehend the "digested plan," on which the author has proceeded. No doubt he perfectly understood this plan himself; but it requires no small perspicuity in an author to convey a *novel* plan to the generality of readers. This difficulty, we fear, Dr. T. will find in the sequel; and we are sorry for it, because the book contains a mine of useful knowledge—the parts, we must candidly confess, connected by materials not well calculated for the purpose designed—the instruction of the *young* student. We conceive, indeed, that the book is far better calculated for advanced students—or even actual practitioners, than as a guide to the

pupil when commencing his course of clinical instruction in the wards of an hospital. The first years of medical study ought to be chiefly occupied in *observation*, rather than *reflection*. He ought first to lay in the materials, before he begins to think upon them, or arrange them into doctrines or systems. There are a number of speculative subjects introduced into this work, which are calculated to abstract the attention of the student from actual facts before his eyes, and bewilder him in metaphysics. The second part of the volume consists of an "exposition of the medical creeds of materialism and vitalism, &c. &c." This occupies 156 pages of letter-press, and embraces, among other recondite matters, the question, *how man was first formed?* Now we seriously ask Dr. Thorburn whether he thinks the *student*, who is overwhelmed with lectures, and his whole time occupied in acquiring elementary knowledge, can possibly dive into these mysterious subjects, without losing the substance, while hunting after the shadow?—Should the work ever come to a second edition, we advise the author to strike out three-fourths of the matter, retaining nothing but those portions that are adapted to aid the student in acquiring *elementary* and *practical* information—the only species of knowledge which he ought to aim at, while in the schools. When he leaves the lecture-room, the hospitals, and the dissecting rooms, to search after private practice, *then, and not till then*, would we recommend Dr. Thorburn's work, in which he will find a vast magazine of valuable information, mixed up with boundless speculations that will exercise the utmost stretch of his thought and imagination. We have reason to know, that the author is a young physician of great promise, and unwearied industry. When his judgment becomes a little more matured, so as to keep his genius in check, he will produce a less erudite, but a more useful volume than that which is before us. We recommend it, finally, to the practitioner-student, and not to the school-student.

INDUCTION OF PREMATURE LABOUR.

We select the following melancholy case from the 42d and 43d parts of Dr. Davis's excellent and economical treatise on obstetric medicine.

Case. "In the summer of 1819, Mrs. P. became the subject of a profuse hæmorrhage in the earlier part of the eighth month of her first gestation. She was at the time occupying a temporary residence at Richmond in Surry. The amount of the hæmorrhage was so great as exceedingly to alarm her, and to induce her forthwith to return to her house in town. Having previously engaged the author to attend her in her expected confinement, she sent for him immediately upon her arrival in London. The orifice of the uterus was found on examination but slightly dilated, and as rigid as if no hæmorrhage had been sustained, although it was described as amounting to nearly A GALLON of blood. This statement, however, it is to be presumed, must have been much exaggerated. The circumstances of the case were such as greatly to have alarmed her husband and the members of her own family, and it was suggested that it might be desirable to obtain a consultation. It was accordingly arranged that a consultation should be held on the evening of the same day. It was attended by the late Drs. Sims, John Powell, and by the present reporter of the case. After each of the party had satisfied himself that he could feel a small portion of the placenta attaching to, and even in the form of a slender stringy substance protruding a little way through the orifice of the uterus, it was resolved to recommend the operation for the induction of premature labour without delay This resolution was no doubt partly formed on the exaggerated representations given of the amount of the hæmorrhage which had occurred at Richmond. Inasmuch as the author had been pre-engaged to attend the patient in her confinement, the duty of operating of course devolved on him.

The operation was performed in the presence, first of one and then of the

other of his friends who had assisted him in the consultation; and he believes with as much slowness and caution as could be well practised. It indeed occupied between four and five hours in the performance; which is itself at least a presumptive evidence that the precautions usually observed in such cases were not neglected. After effecting the dilatation of the orifice of the uterus, the presenting ovum was found unruptured, and the lower extremities of the child, which could be felt through the membranes, were brought down without difficulty. After the removal of this child, which was alive and vigorous, although unusually small for its period of supposed uterine growth, it was soon discovered that there was another in the uterus. The membranes of the second child presented as in the other case, and the second birth was completed in about a quarter of an hour after the first. The double placenta, for such was the case, was thrown off in the course of about another quarter of an hour, and no hæmorrhage was sustained after its removal. Both children were alive and vigorous. It was not however supposed they could long survive; and they accordingly died in the course of the forenoon of the day following. The mother was considered next day to be doing pretty well, after having enjoyed a TOLERABLY good night: she nevertheless complained of some headache and fever, and had had little or no lochial discharge. The skin was rather harsh and dry; the tongue was white and loaded; and the patient had drunk very freely of diluent fluids, Her pulse was perceptibly excited: but what she most complained of was a painful throbbing, which she referred to the small of the back. There was also some tenderness of the hypogastric region; for the relief of which, a dozen leeches were ordered to be applied to the part affected. A general bleeding was not advised, in consideration of the very great quantity of blood which had been already lost. Mrs. P. was visited daily till the morning of the fifth day after delivery; when all the gentlemen who had previously met in consultation were sent for in great haste on account of an alarming hæmorrhage with which she had been recently visited. To make short of the account, the patient was found moribund upon the arrival of her medical attendants.

The reader may readily conceive the distress of mind which this unfortunate termination of a case so interesting occasioned to the author; since he could hardly conceal from himself the probability that it had arisen from rupture of a part of the orifice of the uterus, in consequence of too much force applied to it, notwithstanding the extreme caution with which the operation of premature delivery had been performed.

Permission having been obtained to inspect the body after death, it was some satisfaction to find that no such rupture as had been apprehended had actually been inflicted. The cause of the hæmorrhage however became sufficiently manifest. The long-continued bearing incident to the introduction of the hand had produced contusion, inflammation, and suppuration of the os uteri; and a portion of its tissue, about the diameter of a sixpence, had sloughed off, and left behind it a deepish ulcer of the same extent. On examining carefully this part, several considerable branches of arteries were found in the depth of it, open to the day: and thus was rendered evident the cause of the fatal hæmorrhage."

Mr. Middlemore on Pterygium.*

Mr. Middlemore is favourably known to the profession by several interesting and useful papers on the diseases of the eye: the contribution before us merits notice.

Pterygium, as Mr. Middlemore observes, is a morbid growth of a triangular figure, generally commencing at the inner canthus of the eye, at that part of the conjunctiva immediately around the semilunar fold and lachrymal caruncle, its point or smaller ex-

* Prov. Med. and Surg. Transactions, Vol. III.

tremity being situated towards or upon the cornea, and its base directed towards the periphery of the eye-ball. This is its ordinary, but not constant situation. For not only may it be seated on some other part of the eye-ball, but it may form on different parts at once, and the pterygia converging on the cornea may utterly obscure the pupil. It is not uncommon to observe two pterygia upon one eye—one arising from the inner, the other situated at the outer canthus.

"Perhaps," says Mr. M., "I may be allowed to state upon this subject, as the result of my own experience, that the frequency with which pterygium occurs, as respects the various parts of the eye, takes place in the following order: first—the formation of a pterygium upon each eye, arising from the inner canthus; secondly—the occurrence of two pterygia upon one eye, one arising at the inner, and the other at the outer, canthus; thirdly—the formation of one pterygium alone, either at the outer canthus, or at the upper or lower part of the eye-ball, but not at the inner canthus. The occurrence of four pterygia upon one eye, the points of which have met upon the cornea and completely obscured the pupil, constitutes, in the opinion of the celebrated Scarpa, the pannus of the ancients. I have only witnessed one case, and that very recently, in the eye of Joseph Burley, a patient now under my care at the infirmary."

Mr. Middlemore agrees with Scarpa in believing that the triangular form of pterygium, is dependent on the increasing strictness of adhesion between the sclerotica and conjunctiva, as the latter approaches the margin of the cornea, and between the conjunctiva and the cornea, as the former advances to the centre of the latter. He disagrees with Scarpa in thinking pterygium a conversion of the conjunctiva, but conceives it to be a growth under it. Having premised this we may present our author's description of pterygium.

"The first appearance of pterygium is indicated by a few enlarged conjunctival vessels, proceeding from the inner canthus, (I will assume that to be its situation for my present purpose) and running in a direction nearly parallel to each other; at the same time, there is an appearance of increased thickness in the conjunctiva, just as though a fine web, or film, had been spread upon its surface. In a short time, there is seen a small reddish deposition, situated at about two or three lines from the corneo-sclerotic junction, and the vessels proceeding to, and terminating in it, begin to assume a more definite and distinct arrangement; by very slow degrees this deposition near the cornea becomes more apparent, increases in size, and approaches nearer to the cornea, until it reaches the line of union between the cornea and sclerotica, where it is seen to project above the corneal margin. The vessels proceeding to it, and constituting part of its volume, now become more numerous—the texture in which they are placed increases in density and opacity—and its outline is rendered perfectly distinct by its elevation above the surrounding portion of conjunctiva; it is also quite moveable, and may be raised more or less extensively from the sclerotica, according as its connexion with the texture beneath may be merely *filamentous*, or by a greater extent of more intimately connected surface. At this stage the nature of the disease is rendered quite evident; there is, in short, a red triangular deposition beneath the conjunctiva, which is gradually acuminated towards the cornea, where it rises in a distinctly elevated projection around its margin.

The disease may remain for a long period in this situation, before it makes any discoverable progress upon the cornea; but, after a time, if no measures be employed to impede its growth, it continues its course, acquiring thickness and strength as it advances, until it appear like a triangular muscle, and may extend (gradually tapering as it proceeds) to the centre of the cornea, particularly if a similar pterygium be advancing from the opposite side, when its point is much finer than in those instances in which no opposing pterygium exists."

Passing over many pages of diffuse

remarks, we arrive at Mr. Middlemore's division of pterygium into three varieties, viz. 1, the membranous, or *pterygium tenue*, which is merely a thin semi-transparent layer, in which the course of the vessels may be distinctly observed;—2. the fleshy pterygium, or *pterygium carnosum*, which resembles, in outward appearance, the fibrous structure of a muscle;—3. the adipose pterygium, or *pterygium pingue*, which is chiefly of a white, soft texture much resembling common fat. This latter variety of pterygium is, however, much less common than the two former.

In a case of the sarcomatous pterygium which had gone to some extent, and in which Mr. Middlemore removed the morbid growth by the knife, he found the cornea beneath it opaque, and vascular, and thickened. He therefore cautions the young surgeon against anticipating much success in similar cases, in opposition to the opinions expressed by many writers on ophthalmic surgery. He observes, too, that in old cases of large sarcomatous pterygium, when the disease has arrived at the centre of the cornea, it spreads laterally, so as to acquire a very obtuse extremity, and that in this way it may obscure nearly the whole of the pupil, and destroy all useful vision. It does not proceed from the centre directly across the pupil; it does not progress in a direct and continued course; but covers the greater part of the cornea by its expansion laterally when its direct progress has been arrested by its arrival in its centre; so that, eventually, nearly the whole of the cornea becomes concealed and obscured.

The prognosis of pterygium is simple enough. The earlier it is taken the more curable it is, for if it has lasted long and extended far on the cornea, it has probably adhered to and occasioned serious alterations of that tissue. For the diagnosis of pterygium the reader or the student has only to refer to the description.

We arrive at the treatment.

We may sometimes, says our author, arrest the progress of pterygium by the use of astringents and stimulants; and the cases in which they are most usefully employed for this purpose, are, when the pterygium is small and of recent origin, and is actually increasing in size. The common zinc wash, or the nitrate of silver or sulphate of copper drops, in the proportion of two or three grains to the ounce of water, are the best remedies for this purpose; and the patient may be directed to allow a little of the one or the other of these applications, as may be preferred, to be dropped upon the pterygium, from a common capillary tube, two or three times a day. If, by these means, its increase can be checked, then their use may be suspended, (and this is more particularly necessary when the nitrate of silver drops are employed on account of their tendency to tinge the conjunctiva) for it not uncommonly happens that, when once the progress of pterygium is arrested, it will not again increase, or will at least remain stationary for a long time; still, if at any future period it should evince a disposition to enlarge, the same practice may be again employed.

Escharotics were much used, but they are mischievous; and scarifications have been employed, but they are inefficient. Partial excision is the simple and effectual remedy. Various modes and instruments have been adopted. The following is Mr. Middlemore's.

"If the patient should be requested to lie upon a table or sit upon a chair, and, having the eyelids well separated by an assistant, so as to expose the whole of the globe, (which should be steadied by the firm pressure of the index and middle finger on each side) the operator should grasp the pterygium with a pair of hooked forceps, and having raised it from the sclerotica, pass the probe-pointed blade of a *well-made* pair of scissors underneath the elevated portion, midway between its base and the margin of the cornea, and having divided that portion, as far as its union with the sclerotica will permit, he turns the scissors to the opposite side, which should be also divided in the same way; with a fine scalpel the pterygium may be then dissected and detached from the sclerotica and the cornea by a succession of careful

incisions, taking care that the flat side of the scalpel is directed towards the globe of the eye, so that its cutting edge shall be directed rather away from, than towards it.

If an incision be made upon the pterygium from its external side towards the globe, the sclerotica may be either cut or injured, or much unnecessary pain excited by partially dividing the pterygium in various places; or if, with a view of preventing the necessity of making several incisions, and with the intention of severing the whole of the pterygial production at once, the operator, in the plenitude of his courage and dexterity, makes one free section, the eye-ball may be either slightly incised or completely punctured; and if the scalpel be placed underneath, and the pterygium cut from within outwards, as Mr. Guthrie (p. 142) recommends, it may be raised, indeed, nearly half an inch from the eye-ball, and very probably *torn from* sclerotica or cornea, rather than divided. And this is not merely a theoretical objection, but a matter of the most probable occurrence; and I have myself seen that portion of the conjunctiva situated at the upper part of the eye-ball, and which forms its point of reflection, pulled quite downwards, and nearly the whole of the conjunctive membrane raised, and absolutely *stripped* from the sclerotica and the eye-lid, during an attempt to detach a pterygium situated at the upper part of the eye-ball, in the mode recommended by Mr. Guthrie.

I may further remark, that the scissors employed ought to be rounded at the extremity of that blade which is passed beneath the pterygium and pushed against the conjunctival fold which connects it with the sclerotica, lest it should penetrate or otherwise injure the eye-ball; and the same precautionary remark applies to any, and every, instrument which it may be considered necessary to pass beneath a pterygium for the same purpose, as it is quite impossible to prevent, in every case, by any care and precaution the operator may employ, the sharp point of an instrument from hitching upon or puncturing some important part in an unsteady eye, the muscles of which are contracting (as they will do under the excitement of an operation) spasmodically."

After the operation, the usual means should be adopted to exclude light, keep the eye-ball clean, and prevent adhesion of the eye-lid to it. After the excision of the pterygium, small portions of loose ragged conjunctiva may remain, as it may be difficult to take away the whole of the pyterygium at once, and in either of these cases it is desirable to remove the loose portions by means of the curved scissors, at a subsequent operation, if they do not contract under the use of astringent applications; at all events, it is not right to attempt to destroy them by the aid of strong caustic and escharotic substances.

Such is Mr. Middlemore's paper on pterygium. Its chief, perhaps its only fault, is its diffuseness. This, unfortunately, is too generally the case with the papers contained in the Provincial Society's Transactions. Were they put into a hydrostatic press, the diminution of bulk that would ensue would occasion a proportionate increase of value.

CASE OF GREAT ENLARGEMENT OF THE ARTICULAR EPIPHYSES FROM RICKETS. By THOS. BRAYNE, ESQ. of Banbury.

Mr. Brayne, who appears to be a very intelligent surgeon, has related the following case in the last volume of the Provincial Society's Transactions. He has added to his narrative a sketch of the unhappy patient, which confirms whilst it illustrates the description.

Case. T. P., æt. 7. He was born of healty parents, whose seven other children, though of strumous diathesis, were tolerably healthy also. In three or four weeks after birth, the subject of the case became affected with diarrhœa, and with slight stiffness and enlargement of the right elbow. The diarrhœa continued unabated up to the year preceding this report. It then

greatly decreased, it was attended with prolapsus ani. At the age of seven months he began to waste in his limbs and body; the knees then became enlarged, and after them the wrists and ankles became so too.

His state at present is thus delineated by Mr. Brayne. The knees and elbows are anchylosed nearly at right angles. His countenance is sallow and rather vacant; but there is often a sparkling in the eyes, and a quickness of attention, when he is addressed, as well as a pertinence in his answers, which show at once that he possesses and has acquired much mental power; and which is in nothing more manifest than by the most perfect resignation, and often by the recommendation of it to his younger brothers, when they are peevish and discontented. His skin is dry and unhealthy, and there are many small spots of a scaly eruption, like the psoriasis guttata of Willan, scattered over his forehead, neck, and shoulders. His voice is squeaking and discordant, as though uttered through a reed, with a peculiar dry, sibilous tone, which gives one the idea that there is something imperfect in the vocal cartilages or membrane. There is, however, no external hardness, or enlargement about the throat, either of the laryngeal cartilages or of the thyroid gland. The shoulders are rather high; the ribs compressed laterally; the sternum prominent; and the extremity of the ensiform cartilage slightly everted. The abdomen is considerably tumefied. The right knee measures one foot, seven inches in its greatest circumference, and is as large as the head, within one inch. The relative proportion of the articular end of each bone which enters into the composition of the joint, as well as the situation of the patella, can be discovered by careful examination, and they all seem enlarged in nearly the same degree. The surface feels hard and unyielding, and large veins ramify over it, adding to the dark red colour which the skin has acquired from long distention. The integuments of the interstices between the bones are very slightly œdematous. The left knee measures only one foot, three inches, in circumference. The elbow, wrist, and ankle-joints are also greatly enlarged. The elbows are also so much anchylosed, that all flexion and extension are destroyed—so much so, that he can only reach his lips with the ends of the fingers of the left hand, and this with the greatest difficulty. The hands are only the size of those of a child of two years old, and the fingers are clumsy and ill-formed.

The lithographic sketch accompanying the paper displays these deformities very prominently. Mr. Brayne makes some sensible remarks on the preceding case. It was clearly one of rickets; at least the enlargement of the articular symphyses evidently depended on that state of constitution which gives rise to rickets. A slighter degree of the same thing is not rare. We have at present under our care a young lady, in whom the articular epiphyses of each tibia are enlarged. She has a disposition to rickets. This enlargement of the epiphyses of the tibia is not unfrequently combined with a very troublesome curvature of those bones outwards. The curvature appears to take place at the junction of the epiphyses and shaft. The best means of counteracting it is by taking the weight of the trunk off the lower limbs by means of proper instruments, and strapping the convex tibiæ to an upright steel rod, which extends from the boot to the inside of each knee. Of course there is a jointed rod on the outside, leading up to the pelvic girth. Yet the complaint is difficult of management.

Mr. Brayne points out the paramount necessity of attending to the state of the secretions in cases of rickets. This is, indeed, of great importance. Yet, when the secretions are moderately re-established, we must look to good air —cold bathing—good diet—and tonics, especially steel and sarsaparilla—we must look we repeat, to them for the principal amount of benefit.

REMARKABLE DISEASE OF STOMACH AND COLON. By Dr. J. JOHNSON.

A gentleman of rank, aged about 50, thin, and below the middle size, of remarkably active habits, and free from any disease or disorder, except torpid bowels, which he much neglected, was subjected to considerable mental anxiety in the year 1835. This, as is usual, disordered the functions of the stomach and bowels, rendering the constipation more obstinate, and occasioning what are vulgarly but indefinitely called—BILIOUS SYMPTOMS. In this state he was one day, from choice rather than necessity, exposed to a long-continued fall of rain on the box of a stage-coach, by which he was so much chilled that he experienced an actual rigor, and was advised by the coachman to drink a wine-glassful of brandy while the horses were changing. This restored warmth, and he reached London without further molestation. This was about three or four months before his death, and he dated the commencement of his fatal illness from this gratuitous exposure. Yet, after this period, he hunted in the very worst weather, and could bear fatigue that exhausted young and vigorous huntsmen. To constipation of bowels was now added a new symptom—the inability to take his usual quantity of food, and, occasionally, the rejection of part of the ingesta after an hour, two hours, or three or four hours from the time of eating. The frequency of vomiting gradually increased; and the capacity of the stomach for the reception of food proportionally diminished. The obstinacy of the bowels was also a regularly increasing evil. In the month of September, of the year 1835, an obstipation, amounting to a complete stoppage took place, accompanied by augmented irritability of the stomach, so that the case was considered serious, and several medical men were joined in consultation, when various means were employed, and several days elapsed before a passage through the bowels could be effected. It was, however, distinctly averred (and there could be no doubt of its truth) that, at this time, and for three or four days in succession, a free evacuation of fæculent matters from the bowels was obtained, with considerable remission of the symptoms. But it was quite evident then, and for some time previously, that emaciation was advancing with steady pace. This relief of the bowels was only temporary, and the gastric irritability continued. The quantity of food that could be taken was very small, and almost entirely liquid. The gentleman, who was of the most patient and placid temper, felt as if every thing lodged about the cardiac orifice of the stomach, which, however, was a deceptive feeling. The stoppage of the bowels returned, and after several days consumed in ineffectual attempts to procure evacuations. Dr. Johnson was sent for to the patient on the 20th October. After learning the foregoing particulars, Dr. J. proceeded to make a careful examination. The emaciation was extreme; but the abdomen was not shrunk in proportion. On the contrary, there was some degree of fulness, especially about the navel, as well as tenderness on pressure. No tumour could be detected in the region of the stomach, or in any part of the abdomen. He had vomited that morning nearly a pint of glairy fluid, with some dark-coloured particles. The tongue was furred in the middle, and rather red at the sides and tip—pulse 110—skin dry—and a febrile movement in the evening. The urine was very scanty and high-coloured. As some degree of peritonitis was suspected, eight leeches were applied to the umbilical region, an emollient injection was thrown up, and a grain of calomel was ordered every four hours, without any other medicine. There was no return of vomiting for four days, and then only in a trifling degree—nor did the patient afterwards complain of any pain, except from occasional flatulence. During the two first days of Dr. Johnson's attendance, and in consultation with three highly intelligent medical practitioners in ———, injections were assiduously employed at least three times a day, persevering steadily with the calomel, and employing mercurial frictions with croton oil, occasionally, on the abdomen. Not a particle of fæcal matter

could be procured by these means, and it was deemed prudent to avoid all powerful medicines by the mouth, in order not to rekindle the gastric irritability, which caused the greatest distress. The prudence of this plan was doubted, at the time, by several of the patient's anxious friends, who naturally enough reiterated their entreaties to use some *active* means, to rescue the valuable life now in imminent danger. But the patient now passed his time in comparative comfort, sleeping four or five hours every night, and, being sensible of his state, often writing letters of farewell to his friends in the day. Broths and milk were now thrown up, twice a-day, into the bowels. They usually remained some hours, and occasionally they did not return at all. By these, the sense of inanition was removed, or greatly relieved—for he could only take a few spoonfuls of asses' milk, or other bland fluid by the mouth. Dr. J. remained five days in ————, and, upon mature reflection on the case itself, and in full accordance with his excellent medical companions, refused to hazard any experiments, that might embitter the last days of the patient's life, and not do any good to the disease itself. The reasons on which Dr. J. and the other medical attendants grounded this passive plan of treatment were these. They considered that mechanical obstruction, the result of disease, existed, which no *active* purgative or other remedy was likely to remove, but which would, in all probability, be greatly exasperated by active treatment. The medical attendants thus subjected themselves to some comments, and considerable responsibility; but they were steady in their resolution, and the event shewed that they were right in their judgment. On leaving the residence of the gentleman in the country, Dr. J. put down the following opinion in writing, and left it in the hands, not only of the medical attendants, but of the family and their friends.

"*B. House, near S——y,*
Saturday, 24th Oct. 1835.

After the best consideration which I could give to the case of ————, I have come to the following conclusions:

1st. That anxiety of mind disturbed the functions of the stomach and bowels.

2dly. That there appears to have been originally, and even now, some obstruction to the passage of the chyme from the stomach into the bowels.

3dly. That chronic inflammation has supervened, within the last fortnight or three weeks.

4thly. That an obstruction *now* exists in the intestinal tube, in addition to the original affection of the pyloric orifice of the stomach.

5thly. That there are, in all probability, considerable adhesions among the intestines.

6thly. That there is reason to apprehend sero-purulent effusion within the cavity of the peritoneum.

7thly, and lastly. On reviewing the treatment, before and after I visited ————, I cannot now see any thing that could have been done more or better than what was done.

James Johnson."

After Dr. J. left the country residence of ————, he had a regular correspondence with his medical friends. The same plan was continued, except that the calomel was taken in less quantities as the gums began to get sore. No alvine evacuations could be procured, but the fluctuation entirely disappeared before the death of the amiable patient, which took place without any suffering on the evening of the 1st of November, the complete obstruction of the bowels having lasted at least 25 days!

Dissection.

"Omentum much wasted. The mesentery shrivelled. The internal coat of the stomach healthy, excepting here and there a few patches of petechiæ. The lesser curvature of the stomach appeared like a hard band or cord, which increased in thickness as it approached the pylorus. The whole circumference of this aperture was in this thickened indurated state, extending to some dis-

tance along the greater curvature of the stomach. In consequence of this thickening, the orifice of the pylorus was much contracted, but not so as to entirely close up the opening. The pylorus itself was firmly united to the transverse arch of the colon, by the same kind of diseased structure above-mentioned. The adhesion was so firm, that the pylorus and this part of the colon, at first view, appeared like one intestine. They could only be separated by dissection. In consequence of this union, and the diseased and indurated state of the coats of the colon at this part, the canal of the colon was contracted so much as to allow air only to pass, and then when pressure was used. The duodenum was healthy, and so were the small intestines. The caput coli, ascending arch, and part of the transverse arch of the colon, till just before the strictured portion, were enormously distended with gas. The colon measured, at this place, 12 inches in circumference. The gas would not pass through the stricture till pressure was employed. There was also a great quantity of healthy fæces in the caput coli and ascending portion. The descending colon and rectum were healthy, and quite empty. There was no ulceration of the coats of the stomach or bowels. The intestines contained much air, but there was no adhesion—no glutinous matter—no appearance of inflammation or disease, except what is mentioned above. No effusion above an ounce into the cavity of the abdomen. There was a slight adhesion between the liver and colon, near the strictured part. The other abdominal organs were free from disease."

It will be seen by the above dissection, that the diagnosis was right in two out of the four particulars. The obstructions in two different portions of the alimentary canal were the most important items, and on which hung the fate of the patient. Both Dr. J. and the other attendants were very confident, at one time, that fluctuation existed in the abdomen, though they were probably deceived by the accumulation of fluids and other matters above the stricture of the colon, where that bowel was so immensely dilated—and where fluctuation might not easily be discriminated from a general effusion. The existence of chronic inflammation and adhesions was, of course, matter of conjecture, and, as it turned out, the conjecture was erroneous. The main calculations were, however, correct, and they absolved the medical attendants from any censure that might have been applied, by those who advocated the exhibition of heroic remedies. The amiable family of this gentleman gave permission for a *post-mortem* examination, with a view to benefit the living. The case is now published in furtherance of that object. It ought, and it will, prove a lesson to those who consider that obstruction in the bowels is a merely mechanical one, and independent of some inflammatory or organic lesion, of which the obstruction is, in fact, the result, or necessary effect. Excepting, indeed, obstructions from hardened or accumulated fæces, we know of hardly any case where drastic purgatives can be safely used. The history of the case will generally inform us whether there is suspicion of chronic disease being the cause of the obstruction, as in the case here detailed—and where this is the case, we conceive that the mildest means alone should be resorted to.

The adhesion of the scirrhous pylorus to the middle of the transverse arch of the colon, and the participation of the *latter* in the disease of the *former*, are circumstances that ought not to pass unnoticed. We may fairly presume, that the adhesion between the two parts above-mentioned was the result of some temporary inflammation, occurring at a period long before the illness which terminated life. But we may also safely infer, that the scirrhous state of the pylorus was propagated to the coats of the colon (which were now in intimate union with the pylorus,) and that thence resulted the thickened coats of the colon and the obliteration of its calibre. We know that scirrhus and cancer are propagated from one tissue to another in the body—from the softest to the hardest parts. Mr. Hooper, of Southwark, lately presented

to the London Medical Society a very fine specimen of chimney-sweepers' cancer, spreading from the scrotum to the os pubis, and involving the latter in its destructive ravages. This was clearly the case in the present instance.

The medical attendants on this distinguished patient, had the melancholy pleasure of knowing that the relatives of the victim of an incurable disease were not only satisfied with the judgment of the said attendants, but were grateful, in the highest degree, that the patient was kept in the least possible state of pain, by their abstaining from all violent measures, which would have aggravated the unavoidable sufferings of the dying man, without affording the remotest chance of success. On this account alone we deem the case worthy of record, as a beacon and a lesson for our junior brethren.

DESPERATE WOUND IN THE NECK, IN AN ATTEMPT AT SUICIDE. Communicated by Mr. DANIEL TYERMAN, of Banbury, Oxon.

[Extract of a Letter.]

"*Aug.* 14*th*, 1834. Mr. —— æt. 35, a gentleman of robust make and constitution, while under the influence of delirium tremens, in a moment of increased excitement, seized a worn-down dinner knife, and plunged its blade into the right side of his neck, the point entering beneath the lobe of the ear and behind the angle of the jaw, severing the external, and probably from the extent of the wound, the internal carotid arteries, and internal jugular vein. The point of the instrument entered the pharynx and struck upon the spine. A line drawn from midway, between the lobe of the ear and angle of the jaw transversely across the lower lip, would indicate pretty nearly the direction of the wound, the external orifice of which was inclined obliquely downwards and forwards, and was about one inch and a half in extent.

Being in a neighbouring apartment, Mr. Thomas Norris and myself were immediately summoned, and we found the patient sinking from loss of blood into the arms of an attendant; blood in profuse quantity gushing from the wound and from the mouth, the lower lip being drawn to the left side.

As he lay in the recumbent posture, I introduced my left fore-finger into the wound, its point passing into the pharynx, a spasmodic motion of whose fibres was plainly felt, also a notch inflicted by the knife in the anterior common ligament covering the body of the second cervical vertebra. The internal carotid was plainly pulsating beneath the finger. At this time the patient, in efforts to spit out the blood which was flowing into the mouth, depressed the jaw, the angle of which being exposed by the knife pressed sharply on the finger. The hæmorrhage was much restrained by this proceeding, and blood still flowing I made pressure with my right hand upon the common carotid trunk. Notwithstanding these exertions, blood continued to flow until a large plug of lint was quickly inserted deeply into the wound upon my right fore-finger, the left being withdrawn. The hæmorrhage was now nearly restrained, a few drops only oozing by the side of the plug.

I proposed immediately operating on the common trunk. Mr. Norris assenting to the proposal, with his able assistance, I secured that vessel below the omo-hyoid muscle, Mr. N. being in readiness to make pressure upon the artery as low as possible in case of a renewal of the hæmorrhage. No blood was lost in the operation, and the ligature commanded all hæmorrhage. The descendens noni lay rather to the right of the sheath just about to cross it, and a large cardiac nerve ran down upon the artery in contact with its coats. The vein was not distinctly seen in the operation, being collapsed, this state indicating the great quantity of blood lost, or its division above by the knife. No complete fainting took place, notwithstanding the enormous quantity of blood lost, which could not be estimated at less than sixteen pounds. Not more

than a minute could have elapsed before our attendance, and about a pound and a half of blood flowed from the wound and from the mouth in our presence. The patient was carried to bed after lying an hour or two upon the floor, and having somewhat rallied—the pulse being 60 and feeble.

Mr. Norris and I having consulted, we decided upon placing him under the influence of opium and gave liq. op. sed. gtt. x. 6tis horis. The bowels had been freely opened in the morning by enema and purgatives. He lay in a half-dozing state during the remainder of the evening. Mr. Callaway of Guy's Hospital saw the case towards night, and corroborated our plan of treatment.

Aug. 15th, morning. Has dozed much, but obtained scarcely any sound sleep. Pulse 96, small, with hæmorrhagic hardness—tongue dry, glazed, and when moved the right side is sore and painful. Thirst—skin warm and perspirable—deglutition difficult, but performed without necessity for the tube—no hæmorrhage. Small coagula have been spit from the mouth. Serosanguineous oozing from the wounds. Sensation and warmth diminished upon the right side of the face. Milk and arrow-root diet. Rept. med.

Midnight. He slept imperfectly for an hour, with startings and half-closed eye. Respiration accompanied with a guggling noise. Pulse 100 softer and fuller, with slight deviations in its character. Skin perspirable. Deglutition performed with difficulty, but not followed by pain.

16th, Morning. Great restlessness during the night. The plug of lint causing much uneasiness and difficulty of breathing was gradually removed from the wound this morning without hæmorrhage—it is covered with well-formed pus, and the surfaces of the chasm are granulating healthily. A pledget of lint to be passed daily into the wound upon a director, a pad placed under its orifice; poultice over the orifice. Deglutition and respiration facilitated by the removal of the plug. Bowels not open—tongue dry. Enema decoct. avenæ. The same diet—rept. opium.

Midnight. Has slept for three or four hours, and starts on awaking. Urine passes involuntarily in small quantities, and has a strong ammoniacal odour. A pain in the stomach of which he complained was removed by small quantities of diluted brandy. Pergat.

17th. Has improved, and has slept for several hours. The wound discharges freely, and deglutition much less difficult. Omit opium.

18th. Tongue becoming moist and cleaning at the edges—much less thirst. The bowels being torpid, Rh. p. viii. cal. gr. ii. were given, which freely operated, after which the pulse fell from 100 to 72. A fainting fit occurred at noon during slight exertion in changing the bed. Urine secreted in larger quantities, is retained, and has completely losts its ammoniacal odour. The opium has been repeated since he showed some increased irritability—also small quantities of dilute brandy. Port wine with arrow-root.

19th. Going on well, though much excitement and restlessness continue. Appetite pretty good; not yet able to masticate, as the lower jaw can be only slightly depressed. Deglutition performed without pain. Pergat.

21st. Considerable restlessness at night, but he appears improving.

23rd. From some excitement to-day the pulse is 84 and slightly jerking, and he feels some constriction about the glottis on taking a deep inspiration, which was relieved. Sp. æth. sulph. comp. ʒj. liq. op. sed. gtt. xij. hora somni sd. Rept. opii.

25th. The ligature of the common carotid separated to-day—the deep wound is fast closing. Restlessness continues at night.

26th. Mastication and deglutition performed with tolerable facility, and depression of the jaw is performed to nearly its natural extent. Porter Oj. a day—light pudding.

29th. More animal food than ordered was given, and slight febrile action was induced. An opiate, and the calomel purgative were given.

30th. Bowels well open—the deep wound fast closing, it being only 3-4 of an inch deep.

Sept. 1. Is able to sit up for three or four hours, and walk up and down the room. Bowels open—appetite good, though some restlessness at night continues. Fast recovering strength. From this date, complete and rapid recovery took place—the countenance for a long time, however, remaining exsanguine. The cicatrix of the wound was depressed, and extended from the edge of the sterno-cleido mastoid muscle, as it is passing to its insertion, to the angle of the jaw. The lower lip still remained drawn to the left side, and articulation in consequence somewhat imperfect."

Scandinavian Contributions to Practical Medicine.

[From the German.]

In the 44th and last volume of Rust's Magazine, we notice, under the title "Contributions to Practical Medicine and Surgery, collected from Scandinavian Sources," a series of cases and observations, communicated by Dr. J. F. Neverman, of Plau in Mecklenburg. These "Contributions" possess a twofold interest; firstly, they are in themselves, for the most part, good and valuable; and, secondly, they afford some insight into the state of medical science in Denmark—a subject with which, we dare to say, the generality of our readers are but little acquainted.

For these reasons we will overset, as the Germans have it, a few of the most important among them, commencing with a paper by Dr. Stenberg of Vallö, "On the Employment of Bloodletting and Emetic Tartar in Intermittent Fever."

"In April, 1831, intermittent fever again began to prevail, presenting usually the tertian type, more rarely the quotidian, and less frequently still the quartan. As in the preceding year, the treatment consisted chiefly in the exhibition of Peruvian bark and quinine, by which the disease was removed without much difficulty; but the relapses were frequent. Many, therefore, had recourse to quacks and empirical remedies, and the frequent consequences were a train of morbid phenomena which indicated more or less serious affections of the thoracic and abdominal viscera. The more frequent of these secondary symptoms were those of dropsy, and of indurations of the liver and spleen, dyspnœa, cardialgia, &c. Under these circumstances, I determined to make a trial of the method proposed by Riech,* with which I had lately become acquainted, and which this physician has long practised with distinguished success. Indeed, he asserts that secondary symptoms, (which he regards as the result of neglected inflammations) and that relapses are, in his practice, of very rare occurrence. At first I experienced much opposition on the part of the patients, who complained particularly of the nausea, vomiting, and purging produced by the mixture; when, however, the beneficial effects became apparent, all murmurs of disapprobation were at once silenced. The following are the results of my experience in this mode of treatment.

During a period of three months, I subjected 109 individuals to the plan recommended by Reich; not, however, rigorously adhering to it, as he appears to me to push the bleeding too far, and to give the emetic tartar in too powerful doses. My plan was to open a vein during the paroxysm, preferring the cold stage, or the period immediately preceding this. I never bled the same patient more than three times, and but rarely more than twice. During the paroxysms I gave no medicine, but in the interval between them, I directed a mixture to be taken composed of two drams of sal ammoniac, and from eight to twelve grains of emetic tartar dissolved in eight ounces of water, the dose being a spoonful every two hours. In the case of children, in the place of bleeding, I applied leeches over the cardiac region. By this treatment the hot stage was shortened in a marked degree. At the first bleeding the blood never presented an inflammatory crust,

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* Grundlage der Heilkunde. Ein Spiegal fur Aerzte. Berlin, 1828.

though at the second and third this appearance was frequently observed. In many cases after venesection, and copious evacuations *per anum et per oram*, the disease still continued, and was only completely subdued after a second, or even a third bleeding; in perhaps the half of the patients, the fever, though much mitigated, resisted a perfect cure by these means, but—now it was that I was enabled, almost without an exception, to cure it with a smaller quantity of bark or quinine than before; a decoction of six drams of bark in seven ounces of water being now found sufficient. As far as my observations extended, relapses were but little diminished in frequency; when they occurred, I did not again take away blood, except in the case of plethoric individuals, and then once only, but treated them on the ordinary plan with bark or quinine.

It is an objection to this mode of treatment, that after the removal of the febrile symptoms, a state of languor and debility of long continuance remains; on the other hand it has the signal advantage of obviating those secondary affections of the thoracic and abdominal viscera above noticed. I feel myself in some way peculiarly entitled to decide on the best methods of treating intermittent fever, having suffered myself for many years from severe attacks, occurring almost every spring or summer. I have personally tested the efficiency of many plans, and amongst others, of the one now under consideration. When bled during the hot stage, the sensations I experienced were extremely agreeable. After two venesections, some traces of periodic fever still remained; these, however, quickly disappeared under a short use of decoction of bark. The consequent languor and debility were of longer duration than usual, but throughout the whole year, I felt an unusual lightness in my body, and was almost entirely free from the feeling of oppression between the chest and abdomen, from which, when recovering from former attacks, I always suffered for many months.

In children, Reich's mode of treatment appears less decidedly beneficial, which surprised me the more, because, in these cases, he particularly lauds its efficacy.

In conclusion, I must observe that I do not blindly and unconditionally follow this practice, and that there are many cases to which I do not consider it applicable; but I cannot and dare not deny, that in adult plethoric subjects, in whom the paroxysms are violent and frequent, and in those suffering from congestions of the thoracic and abdominal viscera, it is eminently beneficial, and under these circumstances, I shall continue unhesitatingly to employ it.

By Westergard, district surgeon at Kjöge.

It having fallen to my lot at the commencement of the year 1830, to treat a crowd of patients affected with intermittent fever, of whom many had suffered frequent relapses, and presented symptoms of *obstructio viscerum*, I resolved to make a trial of the method recommended by Reich, who treats this disease as a kind of pneumonia with bleeding and tartarized antimony. The first patients, on whom the experiment was made, were children from the workhouse of this place; many of these had long suffered from a tertian intermittent, which, although removed by emetics, sal ammoniac, bark, sulphate of quinine, ergot of rye, (mutterkorn,) or other remedies, recurred repeatedly after a lapse of three or four weeks. In these patients, who were between 10 and 16 years of age, subsisting on a spare diet, and of a habit of body far from plethoric, I opened a vein each time that a paroxysm occurred, preferring, if circumstances permitted it, the hot stage, and abstracting from four to eight ounces of blood. After the first venesection, and at the termination of the paroxysm, I administered a mixture composed of eight grains of tartarized antimony dissolved in eight ounces of distilled water, in the dose of a half or one table-spoonful every two hours, and I continued this medicine many days after the disease had disappeared. The patients were also directed to remain in bed, and to be restricted to a low diet.

These my first experiments, about 20

in number, were crowned with remarkable success: in some of the cases, the paroxysms did not return after two venesections, more frequently three were necessary, but it very rarely happened that the fourth bleeding did not remove the disease completely. Only in a weakly boy, aged 14, who had suffered from repeated relapses, and had symptoms of hepatic obstruction, did I find it necessary to practise a fifth bleeding before the disease gave way. This boy, in the course of two or three weeks, regained his health and strength, and after a lapse of nine months, still retained them unimpaired. All these patients, together with 40 others, residing in the town or country, whom, at a later period, I subjected to a similar treatment, perfectly recovered their health, and not one, as far as I know, experienced a relapse, or suffered from any consequent secondary affections.

Patients between the ages of 10 and 60 years, I treated in this manner with similar success. From middle-aged adults, I abstracted the first three or four times, at each venesection, about twelve ounces of blood; in succeeding bleedings, if these were necessary, not more than eight ounces; though if a decided effect were not produced after the first or second time, I did not scruple to take away from four to eight ounces more. I have had many cases in which a single venesection cured the disease, and many in which it was removed after the second. In two patients thus cured, one of whom had been once and the other twice bleed, the fever returned on the 21st day; each was bled to twelve ounces, the effect of which was that in both the disease was at once effectually checked. Experience has convinced me that, to effect a lasting cure, the patient should be bled in every paroxysm, however light it may be; for if this is not done, the disease in a few days regains its original power. In two cases, I was compelled to bleed six times; the patients had had many relapses, and, for a long period, had been under treatment with bark. Rarely did any considerable degree of debility follow the loss of so much blood; but, on the contrary, the patients after the first or second bleeding felt better, the tongue was cleaner, and when the fever ceased, they quickly regained their former strength and health.

I bled in the hot stage; and when the attack was a severe one, and the pains in the head and chest violent, the patients were so greatly and so immediately relieved, that they themselves often earnestly requested a repetition of the venesection in the succeeding paroxysms. In a few individuals whom, on account of debility, I did not consider it advisable to bleed again, the disease was speedily removed by a decoction prepared with one ounce of bark, half an ounce of valerian, four grains of emetic tartar, and eight ounces of water. In the case of children under eight years of age, leeches were substituted for venesection, but not always with success; however, in many I succeeded in removing the disease by a solution of emetic tartar.

I am aware that many physicians are unfavourable to this method of treatment, but I firmly believe that it deserves attention, and we ought not to reject it without a fair trial. During a period of nine months, in which I treated 60 patients, I became convinced of its superior efficacy; no other practice so quickly removes the disease, and none other so completely obviates relapses, and secondary organic affections."

Dr. Neverman remarks, that the foregoing observations, for which, he says, we are indebted to two excellent physicians, and observers of nature, were communicated to the Royal Board of Health at Copenhagen, and by that body directed to be printed. Bleeding in intermittent fever has been long advocated in this country by Dr. Mackintosh of Edinburgh, and those of our readers, who have perused the account given by that eminent physician of the effects of this practice, will not fail to remark the accordance of his results with those obtained by Stenberg and Westergard. It appears that bleeding may be practised with perfect safety and perhaps equal benefit, in the hot as in the cold stage, a fact which sadly invalidates the aphorism of old Celsus, "si

vehemens febris urget, in ipso impetu ejus sanguinem mittere, hominem jugulare est." The exhibition of emetic tartar in intermittent fever, is, as far as we know, new: and we hope that the commendation bestowed on it by our Danish brethren will not fail to attract attention to it.

Excellent Effect of a Blister in allaying a violent Chronic Hiccough; by Dr. De Meza of Helsingör.

A corpulent, plethoric man, ætat. 60, of sanguineo-choleric temperament, accustomed to three meals daily, and much addicted to Bacchanalian pleasures,—after suffering nine days from a disordered stomach, was at length induced to take an emetic. It had operated five or six times, when he was seized with a violent, painful, and unceasing hiccough. I ordered a purgative, and afterwards an antispasmodic clyster, composed of *Assafœtida*, *Laudan. liq. Sydenham*, and a decoction of groats; I also directed rags steeped in a pint of camphor to be applied every half hour over the abdomen, and twenty-five drops of laudanum to be taken at night. At my visit on the following morning, I found him in the same state, and was informed that the hiccough had continued all night, and prevented him from sleeping. The pulse being full and hard, and the face flushed, I bled him, and directed twelve leeches to be applied to the abdomen; the following medicine was prescribed:

℞. Mosch. orient. gr. x.
Aq. menth. pip ʒviij.
Syrup. Diacodii (papav. caps.)
ʒss. M.
Sumat cochleare unum omni horâ.

In the evening, little alteration; the hiccough was still incessant, though attended with less pain. I now ordered 15 drops of cajeput oil, and the same quantity of Dippel's animal oil, to be taken in oat-soup (water gruel?) every two hours, alternately with the musk mixture; and at night a repetition of the opiate on the following day, still no change; the patient had slept a little, but his sleep was every minute broken by the hiccough. I applied a large blister upon the abdomen, which in the evening had risen well; from this moment the hiccough entirely ceased, and in a few days, the man was able to attend to his business as usual.

Case of Empyema of the Left Pleural Cavity, attended by peculiar circumstances. Communicated to the Royal Medical Society of Copenhagen, by Svend Svendsen, Army Surgeon.

A musketeer of the second regiment of infantry, about 20 years of age, and of robust frame, was received into the garrison hospital of this city on the 25th of February, 1821, on account of an inflammation of the lungs. He complained of pain extending over the entire left side, was subjected to the usual treatment of bleeding, blistering, camphor mixture with saltpetre, &c. and on the 5th of May following was dismissed perfectly cured. On the 7th, he again presented himself with a fluctuating swelling on the left side of the chest. It was situated between the sixth and seventh true ribs, near their anterior extremities, and had every appearance of a simple superficial abscess. An emollient poultice was applied, and on the following day, the swelling was punctured; at first the discharge of matter was trifling, but the quantity gradually augmented. The puncture being small, I attempted several times to introduce a small canula, but no sooner had I effected this object than the patient was seized with spasms in the chest and groaned so piteously, that I immediately withdrew the instrument. I now contented myself with making the opening somewhat wider. The pus evacuated appeared of the laudable kind, and its quantity, gradually increasing, was at length very considerable. By degrees, and despite of our remedies, symptoms of *phthisis purulenta* presented themselves, and the patient died in the last stage of marasmus on the 9th of March, 1832.

Autopsy. The heart was shrunk, very small, and in nearly every point of its surface firmly adhering to the pericardium. All that was visible of the left lung was a piece at the root, about two fingers long, and the left cavity of the pleura was filled with pus.

The opening by which the matter had escaped, might admit the blunt end of a common probe; it passed through the parietes of the chest, between the sixth and seventh true ribs, near their anterior extremities, right into the thoracic cavity. Beneath this, the rib was somewhat carious. The liver was unusually firm and voluminous; it projected high into the chest, and covered by the diaphragm, lay immediately over the opening, and closed it, so that on introducing a probe through the latter, the instrument impinged directly upon the diaphragm resting on the liver, and could not be passed farther unless the diaphragm and liver were forcibly pressed from below."

With respect to this interesting and, we may add, important case, M. Svendsen makes some observations, the justness of which we cannot but regard as problematical. He observes—"although the patient, to judge from his appearance and his own declaration, was perfectly well on the fifth of May, 1821, yet it is more than probable that he then had a *vomica* in the substance of the lung, and that by the continuance of the suppurative process, that organ was at length consumed, and an empyema produced."

We consider this an incorrect view of the origin of the purulent fluid, 1st, because we do not believe that a man in whom an inflammation of the lungs had terminated in the formation of an abscess, (a termination of pneumonia, let it be recollected, of exceedingly rare occurrence) either would appear or would feel perfectly well. And, secondly, the morbid appearances were certainly not such as would have been presented had the lung been consumed by suppuration; but, on the other hand, they were precisely such as are constantly observed in the bodies of those who have died of chronic pleurisy, and we cannot help suspecting that the empyema of the case in question originated from this cause. Again, we greatly object to the word *vomica;* it is a loose and ambiguous term, savouring of those darkened times when Laennec had not yet appeared, and which, under our present enlightened pathological views of thoracic diseases, is, happily, well nigh exploded. We observe also that M. Svendsen states that the patient died under symptoms of *phthisis purulenta;* here again we must charge him with employing a loose and ambiguous expression, for phthisis purulenta, is, strictly speaking, that stage of phthisis when the pulmonary tubercles are in a softened state, while it is very clear that the case related by him was not one of tubercular phthisis. In short—and this is the point to which we wished to arrive—it must be confessed that M. Svendsen betrays a lamentable ignorance of the great and important additions which, in late times, have been made to our knowledge of thoracic diseases. It may afford some consolation to that gentleman, should these strictures by chance meet his eye, to reflect that not only in his own country, but in Germany also, the medical men are alike obnoxious to the same accusation. This is a melancholy fact. Their's, indeed, and not our's, the loss; the German public and not the English are the sufferers; yet are the feelings of universal philanthropy warm in our bosom, and much would it gratify us, and happy should we be, could it be proved that we have arraigned the innocent; but greatly we fear this cannot be.

But to return to our case which, as we before remarked, is an interesting and important one. It places in a striking point of view the danger of performing the operation of empyema without a careful investigation of the case. It is evident that had paracentesis been carelessly performed in the present instance, the diaphragm and liver would have been seriously wounded, and the object, that of evacuating the fluid, unattained. The convulsions and acute pain experienced by the patient on introducing the trocar were clearly referrible, M. Svendsen remarks, to the extremity of the instrument pressing on the diaphragm and subjacent liver.

SOME REMARKS ON MALFORMATIONS OF THE INTERNAL EAR, BEING THE RESULT OF POST MORTEM INVESTIGATIONS PERFORMED IN FIVE CASES OF CONGENITAL DEAFNESS. By Mr. EDWARD COCK, Demonstrator of Anatomy at Guy's Hospital.*

Mr. Cock laments, and laments with reason, the imperfection of our knowledge of the morbid changes of the internal ear. The patience required, and the difficulty experienced in the dissection of that minute organ enclosed in solid bone, are the obvious causes of the absence of research, and the ignorance which has resulted from it.

"When structures, says Mr. Cock, so numerous and diversified, are found assembled within a small portion of bone of compact texture and ivory hardness, —when bones, ligaments, joints, muscles, membranes, secreting tissues, vessels, nerves, and fluids are compressed within so small a compass,—it may be conceived how much time and labour must be expended, and how many ears must be dissected, before we can gain even a superficial and imperfect knowledge of this organ in its healthy state, and how difficult to appreciate every morbid change, or every congenital malformation which possibly may occur in in its structures.

Under these circumstances, it is not surprising that congenital deafness should have been almost universally ascribed to paralysis of the auditory nerve, although I believe there is scarcely a case upon record in which the nerve has been found altered in its size or texture, unless through the agency of tubercles, hydatids, or some other cause producing mechanical pressure or lesion of its substance."

Saunders relates one case illustrative of the cause of congenital deafness. In it the labyrinth was occupied by a soft cheesy substance.

Itard, who has published a voluminous work on the diseases of the ear, mentions two cases of congenital deafness, in which the tympanum was filled with a calcareous deposit; also two others, in which a morbid growth had taken place from the membrane lining that cavity, "Végétations produites par la membrane qui la tapise;" and a fifth, where a gelatinous secretion occupied not only the tympanum, but also the canals of the labyrinth. He likewise speaks of a child, where the auditory nerve was converted into a substance resembling mucus, and of a man, in whom it was shrivelled up and reduced to a mere thread.

In Pinel's dissections the cavities of the labyrinth were dry and empty; but these seem to have been cases where deafness occurred in after-life. There are also cases of congenital deafness being caused by an extension of the true skin over the membrana tympani, by the presence of polypi in the meatus externus, &c.

Mr. Cock has within the last two years examined the temporal bones of five children who died in the Asylum for the Deaf and Dumb. In two of these he has detected very palpable deviation from the normal structure. We cannot condense much the ensuing details.

"The subjects examined were all children who died of strumous diseases of the thoracic and abdominal viscera. In three instances, one or both ears were the seat of scrofulous ulceration, affecting the tympanum and meatus externus with partial destruction of the membrana tympani. In one case, the cavity of the tympanum, together with the mastoid cells, was completely filled with the thick cheesy deposit of scrofula, whilst a similar affection pervaded the whole cancellated structure of the petrous bone. The connexions of the ossicula auditûs were destroyed, but the bones themselves remained entire. I merely mention these facts as indicating the strumous habit of body, which I believe prevails very generally among the deaf and dumb; for as these affections could have existed but for a short time previous to death, they can hardly be supposed to have had any connexion with the congenital defect in the organ of hearing.

* Med. Chir. Trans. Vol. XIX.

I may also remark, that in all the cases examined, the petrous portions of the temporal bones exhibited more than the usual varieties of size and shape. In some the bone was so deficient in particular spots as barely to cover the internal cavities, whilst in others there appeared a preternatural osseous development. In one instance, the petrous bone of a child twelve years old, exceeded in size, hardness, and compactness of structure, that of any adult which I have witnessed.

The malformation which I discovered in two instances, may be described in a few words. It consisted in a partial deficiency of two of the semi-circular canals. The extremities of these tubes opening into the vestibule were perfect, but the central portions were impervious, or rather did not exist at all. In the first case, I had the opportunity of examining the ear from one side only. The vertical and oblique semicircular canals were both impervious at their central portions."

In the second case both ears were examined. On the right side, the middle portions of the oblique and vertical canals were wanting, the bone presenting an appearance like that already described. On the left side, the horizontal and vertical canals exhibited a similar imperfection. The scala tympani likewise was terminated, at its larger extremity, by a bony septum, which separated it from the tympanum, and occupied the situation of the membrane of the fenestra rotunda.

Independently of these malformations and the scrofulous affections of the tympanum, there were no appreciable alterations in any of the five subjects examined. The auditory nerve seemed sound, as did the chorda tympani.

"In addition to these two cases of mal-formation I may state a third, which was dissected by my friend Mr. Dalrymple, and is now in his possession. In this instance, the aqueduct of the vestibule was so large as to admit the passage of a small probe, whereas, in the natural state, a fine hair can with difficulty be introduced into the canal."

Mr. Cock observes very properly, that as we do not know the peculiar functions performed by the various parts of the organ of hearing, we cannot determine precisely the effects of any individual alteration of them. But there cannot be a doubt that an important part is played by the semicircular canals, as we find them developed fully in many of the lower animals, in whom the tympanum and cochlea are wanting, or exist only as rudimentary appendages.

"The earliest formation of an acoustic apparatus is found in the crustaceous animals, and consists of a membranous sac filled with fluid, and containing a little bone or some cretaceous matter, on which the auditory nerve becomes distributed. Such a structnre is seen in the crab and lobster, and appears to correspond with the vestibule of the mammalia.

If we ascend the scale of organization, the next class, fishes, present a development not only of vestibule, but of three semicircular canals, which in some of the tribes are very large.

The reptiles are furnished with an organ in most respects similar to the fishes, but in some of them, a faint trace of a rudimentary cochlea and tympanum becomes apparent.

The succeeding class, or the birds, have the vestibule and semicircular canals perfectly developed; they likewise possess a cochlea approaching in its form to the spiral canals which are found in the highest orders, together with a tympanum and external meatus.

Lastly, the class mammalia exhibits, with slight modifications, the perfect development and elaborate construction which characterize the ear of man."

Thus the vestibule and semicircular canals appear to be the most essential portions of the apparatus for the appreciation of sounds. In the form of an appendix, Mr. Cock adds another dissection of a child that died at the Asylum.

Not a vestige was to be found of the fenestra rotunda on either side, the usual situation of the membrane being occupied by solid bone. The temporal bones were exceedingly large, although soft and spongy in texture. The cavities were more than usually capacious, and the Eustachian tubes presented a

remarkable development, being three or four times larger than common. On one side, the aqueduct of the vestibule readily allowed the passage of a large bristle; on the other side, the canal could not be traced through the bone, although its two extremities were more than usually expanded. Suppuration had taken place in one tympanum.

Mr. Cock remarks that:—

"The effect of such a mal-formation would probably be, to prevent the vibratory impression received on the membrane of the fenestra ovalis from being propagated through the vestibule and the canals of the cochlea; for if we consider the labyrinth of the ear as a long osseous tube, commencing at the fenestra ovalis, and terminating at the fenestra rotunda, (and thus closed at both extremities by membrane,) then if a solid structure be substituted for the yielding material, which, in the natural state, closes one extremity of the canal, viz., the round opening, the motion imparted by the ossicula to the membrane of the fenestra ovalis, would no longer produce that undulation of the fluid through the labyrinth, which appears essential to the appreciation of sound."

EXAMINATION OF THE ORGANS OF HEARING, FROM THE BODY OF A BOY, AGED 13 YEARS, WHO HAD BEEN THE SUBJECT OF CONGENITAL DEAFNESS. By J. THURNAM, Esq.

Passing over appearances which were not morbid, we arrive at the condition of the labyrinth of the right side. It was examined by making a section of the petrous bone with a saw.

"The cochlea, thus divided, was seen to be filled with a matter, which, from its appearance, might have been denominated 'caseous.' This, however, I am convinced, merely arose from the minute saw-dust of the hard bone, having formed a kind of paste by admixture with the aqua labyrinthi. The free edge of the lamina spiralis possessed a highly vascular appearance. The periosteum lining the vestibule and semicircular canals, had evident traces of vascularity, though perhaps scarcely more than may be esteemed as normal; it was lubricated by its proper aqua labyrinthi. The horizontal semicircular canal was imperfect on this side, in about the outer third of its extent; but what, perhaps, might be regarded as an abortive attempt at its formation, existed, as is attempted to be shewn. I did not discover any trace of sacculus or uticulus vestibuli, or of membranous semicircular canals. From the soft state of the acoustic nerve, it was impossible to make out the points of its distribution.

In order to avoid the probable source of fallacy alluded to, I did not employ the saw in the examination of the labyrinth of the left side, but, by means of a strong knife, divided the petrous portion of the bone with a single stroke of the hammer. I thus obtained a view of the vestibule, in which, near the opening of the scala vestibuli, and extending into that canal, there was a minute quantity of a calcareous-like incrustation, closely adhering to the periosteum, and which probably was the remains or rudiment of the 'otolithe' of Breschet. Here, likewise, no uticle or sacculus was met with; there however were very minute, gelatiniform, membranous, semicircular canals. In the cochlea of this side, there was no appearance of anything like a caseous deposit. The osseous semicircular canals were complete on this side."

Mr. Thurnam is not disposed to insist much on the apparent absence of the greater part of the membranous labyrinths, as in the sawing or cutting they might have been partially removed. As Mr. Thurnam remarks, it is yet doubtful what degree of consequence can be attributed to the malformation of the semicircular canals in *one* ear. To us this is rather staggering, and throws doubt on the dependence of congenital deafness on the alterations of these canals. However speculation is at present useless, and the great object is, to accumulate more facts. With one other passage we conclude.

"The existence of calcareous bodies in the vestibular cavity of fishes has been long known to comparative anatomists; but it is only of late, that it has been shewn by Breschet, that these have

their analogue in the human species and in all the mammalia, in the form of two minute calcareous bodies, which, accordingly as they are of a hard or soft consistence, he denominates otolithes and otoconies. These bodies, which are situated in the centre of the sacculus and utriculus vestibuli, and appear to be suspended in the aqua labyrinthi, through the medium of minute nervous fibrillæ, have not attracted that attention from British anatomists and physiologists, which, from the interesting nature of the question, might reasonably have been expected; but they deserve to be pointed out here, as liable to mislead the morbid anatomist who is unacquainted with their existence. Itard gives a case of congenital defect of hearing, in which, the presence of small portions of calcareous matter in the vestibule and tympanum, is alleged as the cause of deafness. Whether or not the semicircular canals were examined does not appear."

The contributions of Mr. Cock and Mr. Thurnam are interesting and valuable, and we are sure the profession will be under obligations to both, if they pursue their pathological investigations of the state of the internal ear.

Mr. Smith on some Cases in Surgery.

Mr. Smith, Professor of Surgery in the University of Maryland, has related some interesting surgical cases in the North American Archives of Medical and Surgical Science, a transatlantic monthly contemporary. We shall notice such of the cases as seem to contain any practical information.

Case 1.—*Calculus in the Bladder—Sloughing of the Glans Penis.*

A seaman, æt, 71, was admitted into the Baltimore Infirmary, with severe symptoms of stone in the bladder. The urine presented nearly its usual appearance. The patient seemed robust, but had a considerable degree of gastric irritation and febrile excitement. He had laboured under the symptoms of calculus for one year only. On sounding, Mr. Smith discovered one stone rather larger than an egg. The general symptoms forbade an immediate operation. General means were, therefore, adopted at first, and the patient improved to such a degree that the day of operation was fixed. On that very day, the patient was seized with rigor, succeeded by severe pyrexia. There was also great restlessness—extreme and frequent distress in voiding his water—pain in the region of the bladder—tenesmus—great pain in the glans penis. Bleeding, aperients, and an anodyne were the means resorted to. The pain in the glans penis, however, continued to be extremely distressing, and on the third day after that appointed for the operation, without any obvious preceding inflammation, gangrene displayed itself in the glans about the orifice of the urethra. His pulse about this time suddenly sank, and indeed all the symptoms of approaching dissolution supervened. The prompt employment of stimulants and tonics had very little influence in sustaining the powers of life. He died on the day following.

Dissection. The entire glans and a portion of the body of the penis were gangrenous; but none of the ordinary evidences of inflammation were present in the organ. On laying open the abdomen, no traces of inflammation were discoverable in the peritoneum—not even where reflected over the bladder. This organ was somewhat thickened, and, when laid open, its muscular coat was found hypertrophied. The mucous membrane was a little thickened, and that was all. The third lobe of the prostate gland was enlarged, and projected into the cavity of the bladder of the size of a large chesnut. It was soft, and exhibited no appearance of specific disease. In the cavity of the bladder were two calculi, one somewhat larger than an egg, the other very small. They are described as being composed of the phosphatic salts.

The kidneys were very soft and flabby, and mottled on their external surface. The stomach and intestines were slightly inflamed.

Mr. Smith's explanation of the preceding case is as follows:—

"I think it manifest, from the appearances above related, that this man died from irritation inflicted upon the bladder by the calculus; but that which is interesting and important in the case is, that the principal disorganizing effects of this irritation were not felt in the bladder itself, but were, by continuous sympathy, transferred to the glans penis."

We think, with Mr. Smith, that the calculi in the bladder were the principal, though not the immediate cause of the patient's death. Mr. Smith thought it unnecessary to examine the chest. We do not agree with him in that sentiment. Patients with organic disease in any part, are very apt to be suddenly cut off by visceral inflammations, especially by low pneumonia. We see in the dissection no adequate explanation of the rigors and pyrexia with which the patient was attacked. It is not surprising that the glans penis should have mortified. In old persons, whose powers are enfeebled, sloughing of some external part is not uncommon. We have, on several occasions, seen sloughing of the scrotum occur, under circumstances of this description, and we dared say Mr. Smith's venesection helped on the sloughing of the glans in this instance. It is dangerous to bleed old persons for pyrectic symptoms.

Case 2.—*Large Stones broken in the Bladder.*

Mr. Smith relates a not uninteresting case of two large calculi in the bladder. They were too large to extract through any moderate incision. He, therefore, crushed them. This part of the case is all that requires insertion. We shall give it in the words of the narrator and operator.

"The calculus which I felt, was manifestly too large to be extracted entire through an incision of prudent dimensions. I immediately endeavoured with the forceps to crush it. Anticipating this difficulty, I had provided myself with strong forceps for this purpose. But these I had no occasion to employ, as I had no difficulty in breaking the stone with an instrument of small size. Having done this, I extracted fragment after fragment, some of size equal to that of an ordinary calculus. While effecting the removal of these, I had supposed that I was encountering only one calculus, but it subsequently appeared that there were two of nearly equal, and very large size. The one which I first seized was directly in front of the other, which last was partially encysted; the posterior, upper, and left portion of the bladder being pursed around it. Having removed the fragments of the first, I felt the other firmly embraced by the bladder. It was at first scarcely accessible to the finger, and with difficulty approached by the forceps. At this moment I received very important assistance from my friend Dr. Whitridge, who, pressing with the fingers of both hands, immediately above the pubis, forced down into the vicinity of the wound that portion of the bladder in which the stone was embedded, and made it completely accessible to the finger, so that by repeated efforts I disengaged it from its confined situation, and was then enabled to seize and crush it with the forceps. I then continued to extract fragment after fragment, till I had nearly filled both hands of one of my pupils who received them. In the extraction of these fragments, I still received important assistance from Dr. W. who pressed downward the bladder so as to bring its whole cavity within my reach. Some of the smaller fragments I rolled out from the bladder with my finger, co-operating with my left index in the rectum. At length I could touch with the finger no more earthy substance in the bladder, and on introducing a straight sound through the wound into the bladder, and carefully exploring the whole cavity of the organ, I became satisfied that I had removed every foreign substance from the bladder."

The patient had done remarkably well up to the 12th day, when the report was forwarded. Mr. Smith did not wash out the bladder, because he thinks that operation not only unnecessary, but injurious; the force of the syringe being apt to inject the cellular tissue.

Case 3.—*Lithotomy—Secondary Hæmorrhage.*

On the 26th of November, 1834, Mr. Smith performed the lateral operation of lithotomy on a patient, aged 37. He had laboured under symptoms of stone for three years, but had been treated with bougies for stricture, prior to Mr. Smith's attendance. He was in pretty good health, and presented no evidence of disease of the bladder. There was some little difficulty in the extraction of the stone, which was lodged in the bas-fond of the bladder. The calculus weighed little less than two ounces, and had nearly the size of a hen's egg. There was no more bleeding than usual at the time of the operation, and what blood did flow was venous.

"On visiting him at 4 o'clock (the operation was performed at 12, m.) I found him still suffering but little; yet I felt some anxiety when I discovered that but little if any urine had flowed from the wound. On applying the hand to the public region of the abdomen, it was manifest that there was a slight degree of tumefaction there, and there was not a little tenderness. Still there was no urgent necessity for interference.

At 7 o'clock, a message from my patient informed me that he had been just then seized with severe pains and violent straining, which recurred every few minutes, and with increasing violence. I was not for a moment at a loss to account for these distressing symptoms, even before I reached my patient. It was manifest that the flow of urine by the wound had been obstructed by the lodgment of a coagulum, and that the bladder was now labouring ineffectually to relieve itself. Surgeons are well aware that such an occurrence is not unfrequent after lithotomy, and that prompt interference is necessary to give relief.

I provided myself with a straight canula, with large eyes like those of a catheter, and a little larger in diameter than that instrument. This I introduced along the wound into the bladder, which it reached but with little difficulty. It did not appear to encounter in its passage any very firm coagula of blood. On its entering the bladder, there was an instant gush, through the canula, of bloody urine, a considerable quantity of which had accumulated. No sooner had the urine begun to flow, than the patient obtained complete relief, and in a few minutes he became perfectly tranquil. It was manifest from the appearance of the fluid that no recent blood had been poured into it."

Mr. Smith left the instrument in the wound during the night, and before morning the urine that flowed through it was colourless. The instrument however slipped out of the bladder, and in the morning it was necessary to replace it. In the course of a few hours it was withdrawn altogether. The patient now presented no unpleasant symptoms. On the 4th day, he complained of tightness in the forehead, and there was some pyrexia.

On the evening of the 5th day arterial hæmorrhage occurred to some extent. The bladder becoming blocked up with coagula, the canula was introduced. It too soon became obstructed. With a common syringe, Mr. S. now threw cold water through the canula into the bladder, in a brisk stream, endeavouring thereby to break up and dislodge the coagula there formed, and by the influence of cold to constringe the bleeding vessels. Mr. S. continued to repeat the injection until at length the water returned nearly colourless, and it was manifest there was no longer any effusion of blood. Soon after, he administered an enema, by which an evacuation of rather hard fæces was obtained from the bowels. The patient again grew comfortable, and the water flowed from the wound without impediment.

Mr. Smith concluded that the bleeding proceeded from small rather than large vessels, for reasons sufficiently obvious. All went on pretty well till the night of the 8th, when Mr. S. was again summoned.

"On reaching him, I found him suffering from the irritation caused by the accumulation of coagula in the bladder, and also from loss of blood. There were frequent and ineffectual contractions of the bladder and abdominal

muscles—there was some degree of tumor in the pubic region, and much tenderness—the pulse was one hundred and forty in the minute, quick and feeble—the countenance was exanguious and anxious—he was restless. No recent blood had yet flowed externally, but coagula had been discharged from the wound. I immediately introduced the canula and emptied the bladder of the fluid blood and water which it contained. I then prepared a strong solution of alum, which, with the syringe, I threw into the bladder, and then allowed its reflux through the canula. In order that the astringent liquid might certainly come in contact with the bleeding vessels, I then injected the bladder, and quickly withdrawing the canula, allowed the liquid to escape along the wound. I then introduced the canula so far into the wound, as that I supposed its eyes to be engaged in the wound of the prostate, and repeated the injection, the liquid returning by the wound. The Tinct. Digital. with a solution of Nitr. Potass. was now directed.

These means, which were attended with but little suffering to the patient, effected the immediate suppression of the hemorrhage, nor did it afterwards recur."

But, though the bleeding did not recur, the patient remained in an alarming condition. The pulse was very frequent—there were irregular determinations of blood to the surface—the head was hot, and affected with a sense of constriction across the brow. We need not pursue the treatment or subsequent details. On the evening of the 11th day, the patient became affected with symptoms of acute pleurisy, or pericarditis—the constitutional symptoms being a compound of those of irritation and exhaustion. These symptoms were somewhat mitigated, and no more, by cautious bleeding, and remedies of that description; but, on the night of the 18th day, the febrile symptoms were all aggravated, and delirium, with intolerance of light, &c. were added. On the night of the 20th day, he died. No inspection after death was permitted.

We relate this case because it is practically interesting. Mr. Smith seems astonished that the patient should die, and appears puzzled on what to lay the blame. Extended experience in the operation of lithotomy will convince him that, do what he may, some patients *will* die; some are cut off by one thing, some by another, but still some *will* die. Secondary hæmorrhage after the operation is not common, but yet it occasionally takes place. It is a very serious occurrence. We have only seen one instance out of four or five, in which it did not prove fatal. That instance was in the case of a child. Primary hæmorrhage also, we mean hæmorrhage within the first few hours, is always to be looked on with misgiving. The patients in whom it happens generally do ill. Either they get diffuse inflammation of the pelvic cellular tissue, or circumscribed abscess in the pelvis, or some bad consequence or other takes place. In hæmorrhage after lithotomy, the cellular tissue is much disturbed—the blood is driven into it—the urine follows—and the surgeon is obliged to poke about in it with canulæ, or sponge, or lint, or his finger, or something. Certain it is, that the patients far too frequently do ill.

Mr. Smith makes a remark that proves him to be a practical man. He observes that a persistence of a frequent weak pulse is alarming. Nothing can be more true than that, after an operation or an injury, the continuance of a weak and frequent pulse, and a skin slightly warm, is a symptom ominous of coming mischief. Such patients usually get cellular inflammation, or secondary inflammation of the viscera. Let the surgeon always look to it.

The following is an interesting case of aneurismal varyx—an aneurism resulting from puncture of the artery in bleeding, the aneurism consisting of a sac formed out of cellular tissue, intervening between the artery and vein, and communicating with both.

CASE 4.—*Aneurismal Varyx—Ligature of the Brachial Artery.*

A. B. a coloured man, æt. 26, was sent to Mr. Smith, on the 25th of Nov. for an aneurism at the bend of the arm.

"The disease had resulted from an accident in bleeding, which had occurred in the hands of a gentleman remarkable for the neatness with which he usually performs phlebotomy. The accident was owing to the local relations of the parts concerned being remarkably different from those which usually exist. It was the median-cephalic vein which had been opened, but this vessel lay much lower than is usual—that is, nearer to the inner condyle, while the median basilic was very short. The brachial artery, on the other hand, lay nearer than usual to the radial border of the arm. We entertain but little apprehension of wounding the brachial artery when we strike the median-cephalic vein, and this undoubtedly was the cause of the occurrence in this instance. The artery was wounded through the vein and directly beneath it. The blood gushed rapidly at the time, but its flow was soon embarrassed in consequence of the formation of a thrombus. A compress was finally applied, and, although bleeding in small quantity occurred several times, yet the hemorrhage was never serious. The part was a good deal swelled at the time, and painful. At length the inflammation disappeared, and there remained a pulsating tumour. At the time it was first examined by me, it had the magnitude of the half of an egg, and had a distinctly circumscribed cyst. The vein was evidently concerned in the tumour, but to what extent the tunics of the vein entered into the walls of the aneurism, it was by no means easy to determine. It appeared to me, however, on making a most careful examination, that the principal part of the cyst was formed in the cellular tissue, intervening between the artery and the vein—that the inner orifice of the wound in the vein had become expanded, and its margin incorporated with the cellular walls of the aneurism.

The peculiar aneurismal thrill was very manifest in the pulsation of the tumour. At each throb the blood was forcibly injected into the vein, suddenly expanding it both beneath and above the tumour. Beneath, however, this swelling of the vein extended no further than to the first valve, which was half an inch from the tumour. Above, the expansion of the vein was obvious half way up the arm, and the thrilling rush of the blood was distinctly felt at each pulsation of the heart. Pressure upon the brachial artery, above the tumor, arrested the pulsation. Pressure upon the tumor emptied it of its contents. The walls of the tumor toward the surface were thin.

The compress having been already ineffectually employed in this case, and the tumor obviously increasing, I immediately advised that the ligature of the brachial artery should be performed without delay. For this operation he repaired to the Baltimore Infirmary, where I was then officiating as surgeon. Preparatory to the operation, I caused blood to be taken from the arm —prescribed a low diet and repose for two or three days.

The operation was performed in the presence of the medical class of the University of Maryland, and with the assistance of the pupils of the house. The patient was seated in a chair, and his arm was extended upon a table. The incision was made as usual along the border of the biceps, the fascia of the arm being laid bare at the first stroke of the knife, and opened by the second. On introducing the finger into the wound, I felt the pulsations of two arteries—the one in the usual position of the brachial, close beneath the border of the biceps—the other toward the ulnar border of the arm, but not remote from it. On compressing the latter, the pulsations of the tumour did not cease, but when this was practised upon the former, they were instantly commanded. The pulsations of these vessels were so equally strong, that I immediately inferred that, in this instance, the division of the brachial had occurred at a higher point than usual, and that only the radial branch was concerned in the operation. With this impression, I immediately applied the ligature to the artery beneath the biceps. The pulsations of the tumor at once ceased, its volume diminished, and it became flaccid. A silk ligature was employed, one extremity of which was left hanging from the wound."

This was dressed with adhesive plaster, &c. Next day the tumor was found to pulsate slightly, and there was a good pulsation in the radial artery, at the wrist. The brachial artery, also, pulsated feebly on its entrance into the tumor, but no vessel on the ulnar side of the arm could be distinguished, nor was the pulse in the ulnar, at the wrist, any stronger than that of the radial there. Mr. S. therefore supposes that the collateral vessel he felt during the operation was the anastomotic, greatly enlarged. On the third day, there was no pulsation in the tumor. On the fifth day it had become hard and incompressible. On the 13th day, the ligature came away. A slight degree of inflammatory action subsequently occurred about the tumor, but it quickly passed away. The tumor was now no more than half the size it had been prior to the operation.

The preceding cases are facts not unworthy of perusal.

REMARKABLE DISEASE OF THE BRAIN, ATTENDED WITH DISTRESSING SYMPTOMS. By JAMES JOHNSON, M.D.

The subject of this melancholy case was an eminent artist residing in Albemarle-street. The complaint commenced several years ago, in the form of flashes of light before the eyes—and to these were afterwards added, pains in the head, and diminished distinctness of vision. This last symptom gradually increased till his sight was totally destroyed. The grand phenomenon, however, which chiefly annoyed this unfortunate gentleman, was a series of the most dazzling images, perpetually playing on the optical apparatus, by day and by night. Their brightness was unspeakably distressing. Sometimes they would assume the forms of angels with flaming swords, every motion of which seemed, like an electric flash, to blind the eye and sear the brain by the intensity of its light. The forms and shades, however, of these spectral images were perpetually changing, but without any mitigation of the sufferings which they produced. With the exception of some irritability of temper, there was not the slightest affection of the intellectual powers. The memory, the imagination, the judgment, were unimpaired. He was led about the streets by one of his servants; and he attended to all matters where his sight was not engaged, with the greatest punctuality. The eyes themselves presented no appearance of disease.

The symptoms above-mentioned were mitigated, from time to time, by tartar-emetic plasters to the nape of the neck, leeches to the temples, aperient and diuretic medicines. In the Spring of 1835, however, he was seized with all the usual symptoms of apoplexy. He lay in bed motionless and insensible, passing the urine and fæces involuntarily — the pupils dilated — and the power of speech gone. To the astonishment of his medical attendants, he rallied from this state, whether from the powers of nature, or active depletion, may be doubtful; and, after a few weeks, he was able to walk to the City, and transact business as usual! But the spectral images, of dazzling and exquisitely painful brightness returned, with, if possible, increased intensity.

In the month of August, he was suddenly seized again with the apoplectic symptoms above-mentioned, and notwithstanding the same means were employed as on the former occasion, he died at the end of three or four days from the commencement of the apoplectic invasion.

Autopsy. The body was examined on the day after his death. There was nothing unusual in the membranes of the brain. The right lateral ventricle contained nearly two ounces of clear fluid. The left ventricle was occupied by a series of hydatid-like cysts of various sizes, and filled with fluids of various consistencies and colours. This cluster sprung from the floor of the ventricle, by a kind of peduncle, and penetrated into every sinuosity of the cavity, pushing its branches anteriorly, so as to pass over and before, the thalamus nervi optici of that side, and even into the opposite hemisphere of the brain, destroying all the parts in its

march. Both thalami were reduced to a pulp, as was, indeed the whole of the anterior lobes of the brain, which would scarcely bear the slightest handling, without falling into a state of deliquescence. The optic nerves were pressed upon by the cystic or hydatid mass, and reduced to little more than the size of threads, and these of very soft consistence. There was no change in the coats or humours of the eye.

The most remarkable phenomenon in the above melancholy case, is the intensity of brightness which always accompanied the spectral images. Whatever were their shapes, the dazzling and painful splendour never forsook them. It rendered his life a scene of dreadful suffering for some years.

It is scarcely less remarkable that the intellectual faculties should have remained entire, while the anterior lobes of the brain were undergoing the process of softening which they displayed on dissection! Or did this *ramollissement* take place during the three or four days of apoplexy prior to death? If it existed long before the fatal event, phrenology will have some difficulty in accounting for the integrity of the intellectual faculties up to the apopletic seizure. Was the serous effusion into the right ventricle the cause of the apoplexy?—or the consequence of it?—or was it a gradual accumulation, and not mainly instrumental in the final catastrophe? What was the cause of the first attack of apoplexy, and why did he recover from it?

These are questions more easily asked than answered; but the case will suggest several other queries and reflections beyond what are stated above.

SALIVATION FROM IODINE.

Dr. Mackall, of Calvert County, Maryland, reports this in the Journal from which a preceding article is taken.

"In Sept. 1834, I was called upon to prescribe for Mrs. W. who was laboring under an enlargement of the spleen. This lady was of what is denominated as bilious temperament, lived in a malarious district, and had, as a matter of course, been subjected to frequent salivatiou. Two months previous to my being called to her, she had snffered a slight attack of remittent fever; for the cure of which she had been profusely salivated.

When I first saw her, the case presented the following symptoms: her tongue was clean and moist, and except a slight degree of redness around the border, presented no morbid appearance. Her pulse was small, frequent, and irritated; appetite good, bowels regular, and evacuations healthy. Her spleen filled the whole left hypochondrium, and was extremely hard. Under these circumstances I administered the tinct. iodine, in doses of eight drops, thrice a day. In four or five days from the commencement of this course, her tongue became furred; her gums very sore, and a most profuse ptyalism took place, accompanied with strong mercurial fetor. The use of the iodine was suspended for two weeks, in which time the ptyalism ceased entirely. In a few days I resumed the use of the remedy, with the same result; but in a very much slighter degree.

The opinion which I formed at the time of the case, was, that the iodine, by increasing the activity of the absorbents, had caused a portion of mercury to be taken up, which had been lying dormant. And I still think that the ptyalism could have been produced only by the absorption of mercury."

However this may be, it is certain that several of the metals, besides mercury, will occasionally produce salivation. Gold is said to do it; arsenic we have seen do it; and iodine has been also reported a sialagogue. We cannot say that we have witnessed such effects from it; but we cannot doubt that now and then they do take place.

We would make a remark, which, practically, we think will not be found unimportant. When a patient has taken large quantities of mercury, and particularly when he has taken it to the extent of seriously impairing his constitutional strength, small doses will frequently occasion salivation. Nothing

is more common than for a poor wretch broken down by mercurial cachexia to be salivated, and severely so, by a few grains of blue-pill. We see this constantly in the Lock Hospital. Let the surgeon beware how he plays with mercury in individuals circumstanced thus.

IDENTITY OF GONORRHŒA AND SYPHILIS.

It is utterly astonishing with what pertinacity some men will re-assert what has again and again been denied and disproved. Every body knows the vexata questio of the identity or non-identity of syphilis and gonorrhœa. There are some points certainly on which no man can safely say that the line of demarcation is distinct; but still there are such wide, such important differences between the two maladies, that for practical purposes they cannot be regarded as the same. Yet see through what spectacles a theorist will look.

Professor Hufeland announced thirty years ago that "gonorrhœa arising from infection is always syphilitic, but is modified and rendered less infectious by the secretion poured out by the mucous membrane of the urethra." The Professor has actually the hardihood to assert that this proposition has been confirmed by long experience! Confirmed by long experience! Why it is contradicted by the experience of every man of common sense. What surgeon does not see hundreds of claps, and what surgeon sees secondary symptoms from them? If he sees any they are very few indeed. The believers in the indentity of the two poisons shelter themselves behind the ridiculous assumption, that the poison of syphilis is modified by the mucous discharge, and that gonorrhœa, which is syphilis in the mucous membrane, presents on this account mitigated features. This might have some plausibility if only men existed in the world, and if they alone had venereal diseases. But what shall we say of the ladies? The same membrane in them is the seat of both affections, yet still the essential distinction between them is maintained—syphilis as a general rule requiring mercury, and being disposed to occasion secondary symptoms—gonorrhœa, as a rule, not requiring mercury, and not being disposed to give rise to secondary affections.

The following results of Professor Hufeland's experience are really a practical curiosity.

1. *The same cause.*—Two individuals may be infected by one person,—the one may have gonorrhœa,—the other a syphilitic chancre.

2. *The same effects.*—A person affected with gonorrhœa may communicate syphilis to another, or infect himself with that disease. Gonorrhœa matter introduced into the eye may give rise to a venereal ophthalmia; or a gonorrhœa too suddenly suppressed may be followed by bubo, chancre, condylomata, &c. and daily experience proves, that fluor albus of the female, which supplies the place of gonorrhœa, is capable of occasioning syphilis.

3. *The same treatment.*—Although the professor acknowledges that a majority of cases of gonorrhœa are cured either by the powers of nature, or antiphlogistic treatment; he affirms, that when this is not the case, and pains take place in the urethra, with inflammation in the throat, and other consecutive symptoms, calomel is always the most efficient remedy.

The difference between the virus of the two affections is, that, that of gonorrhœa is incorporated as it were with the mucous secretion, and acquires thereby a milder character, so that it may lose its infectious quality both as regards a second person and the individual himself. It is besides sometimes thrown off with the mucous secretions. The virus of a chancre, on the contrary, is more active and corrosive, for the same reason that corrosive sublimate, or any other poison, introduced into the system in its isolated state, is more energetic than when enveloped in mucus.—*Journal für Praktisch Heilkunde*, 1834.

The combination of assumptions and absurdities in the preceding passages, is absolutely marvellous. Yet the opi-

nions bear the respectable name of Hufeland, and they have been retailed uncriticised in America and France. Some of the reputed facts are downright nonsense. What can the author mean by saying that "a gonorrhœa too suddenly suppressed may be followed by a chancre?" The whole affair is utter twaddle.

On Venereal Affections of the Testis.

Such is the title of a paper in the number of our very excellent contemporary of Dublin for November last. The title in question is a palpable misnomer. Can any thing be more loose than the following passage with which the essay opens.

"The existence of an acute or chronic enlargement of the testis, originating in the action of the venereal poison, has been questioned by several practitioners of eminence, but so many surgeons of the highest authority have admitted the existence of venereal affections of the testicle, that we must assume the case to be proved; but here our knowledge, derived from published opinions of practitioners, ceases."

We cannot at all agree with the author, who, we should observe, is Dr. Cusack, that the existence of acute and chronic enlargement of the testis originating in the action of the *venereal* poison, has been questioned. Gonorrhœa, we presume, is a venereal disease, and nobody doubts that gonorrhœa will occasion, and daily does occasion, both acute and chronic inflammation of the testicle. Dr. Cusack, we presume, alluded to the syphilitic poison, but a lecturer on surgery, as he is, should have used more explicit language. This is, after all, only verbal criticism, yet verbal criticism is sometimes indispensable to prevent liability to misconception.

Dr. Cusack's object is to endeavour to point out the syphilitic affections of the testis. We may state broadly that no good account of these affections exists, indeed we may go farther and remark that no good description of syphilis exists. The authorities adduced by Dr. Cusack on the subject are these.

1. Sir A. Cooper believes that the testis is most frequently implicated in company with eruptions and periosteal affections. He supposes that the tunica albuginea is the part first engaged, and the internal fibrous and tubular part of the testis secondarily. Yet he never had an opportunity of verifying this by dissection.

2. Mr. Ramsden, who almost doubts the existence of the affection, seems to consider its characteristic marks, to be uniformity and smoothness of surface, combined with globular form, hardness, and resistance.

Dr. Cusack's experience and observations are as follows:—

As the disease, as far as Dr. Cussack has observed, commences in the body of the testis, there is little alteration in the form of the organ in the first instance; as the enlargement advances, the tumor becomes more globular, the epididymis soon becoming involved, and lost in the general mass; the tumor has a fleshy feel, but differs much in density in different parts; it is said to be smooth and uniform on the surface, and primarily it certainly is so generally. Partial adhesions in the cavity of the tunica vaginalis, combined with effusions into that cavity, even independent of the internal changes whicl may be going on, render this a very uncertain symptom; so uncertain indeed, and so little uniform are the primary appearances, that Dr. Cusack believes the best practitioners would be unable to make a perfect diagnosis if unacquainted with the history of the case, and the attending circumstancs.

The termination of the disease is either resolution, or suppuration, or induration, and the formation of granular bodies, ending in total destruction of the functions of the organ. Dr. Cusack hesitates to believe, and is unable to affirm from his own practice, that this affection of the testis is met with in the earlier stages of secondary symptoms, or during the presence of any of the forms of true papular eruption.

The acute form alluded to is met with

accompanying venereal hectic, pains in the bones, and either a scaly eruption or perhaps a solitary spot, apparently belonging rather to the genus acné; but these instances are comparatively rare, and of fifty patients at present under treatment in Steeven's Hospital there is not one case to adduce in confirmation of such an opinion. The patients who suffer from this affection are those persons who labour under affections of the periosteum and bones, and bear the marks of having suffered from pustular and tubercular eruptions. The specimens of the disease submitted to the Society were wholly derived from persons whose constitutions were broken down from the protracted forms of the disease with which practitioners are familiar, but neither from his own opportunities nor any other source could Dr. Cusack exhibit a specimen of the changes which take place in the more curable forms of secondary syphilis. Ten preparations (selected from the collection in Park-street) were laid on the table exhibiting the disease in all the stages of its progress, from a small circumscribed tubercle in an otherwise sound testis, to the contracted, indurated, and completely disorganized gland. The structure of the tubercle is rather soft, but harder than common scrofulous tumour, and surrounded by a thickened layer resembling a cyst, the product of inflammatory action. In one preparation the tubercle is in the lower part of the testis, which is otherwise so sound that the epididymis admitted of injection by mercury, while in the opposite testis the tubercle was softened, and contained a glairy fluid.

Mr. Cusack noticed that the adhesions of the tunica vaginalis usually took place at the inferior portion of the testis; and also gave it as his opinion, that the granular fungus often succeeded to the suppuration of one of these tubercular chambers.

One reflection must immediately occur to all who are conversant with the diseases of the testis. The tubercular alteration described by Dr. Cusack as constituting the syphilitic affection of the testis, differs in no material respect from the tubercular alteration that constitutes what is commonly known under the name of chronic inflammation of the testicle.

We have seen many instances of syphilitic affection of the testis, and for many reasons we have little doubt that syphilitic affection does not present any very peculiar structural changes. The disease occurs for the most part in what are called cachectic cases—that is in persons with sloughy ulceration of the throat, or rupia, or spreading phagedenic secondary ulcerating eruptions—in persons, in short, who are broken down by syphilis, or mercury, or both. So far as we have seen, the disease *does* appear to commence in the epididymis, or the tunica albuginea. The pain is not usually very severe, the inflammation is seldom acute, the testis is generally hard and irregular, particularly if the disease has existed for any time, and both testicles are often attacked in succession. We said that we did not think there was any striking peculiarity of structural alteration in these cases. It has always seemed to us that the disease was chronic inflammation modified only by the state of system. We have once, and but once had an opportunity of dissecting a testicle under these circumstances. The patient had had sloughing of the fauces—rupia—nodes—and phagedenic ulceration of the glands, which, after removing the greater part of it, terminated, in chronic ulceration and induration of the anterior part of the corpus spongiosum urethræ. Both testes had been frequently attacked with inflammation in conjunction with the appearance of a fresh crop of rupia, or fresh periosteal inflammation. On dissection, the epididymis on each side was greatly thickened and of gristly hardness—the testes were scarcely larger than natural, but irregular, and knobbed. The alteration seemed to consist partly in the deposition of a yellowish, inorganized tubercular matter, and partly in thickening of the tunica albuginea, if not of its fibrous septa.

We have seen the testicle enlarged in connexion with tubercular eruption, unattended with decided cachexia, and uncomplicated with mischief from mer-

cury. In that instance the testis was a good deal larger than natural, uniform on the surface, hard, not very painful. The condition of the epididymis, we do not recollect. So far as the appreciable condition of the testis went, there was nothing to distinguish it from the state of chronic inflammation. The disease subsided under a course of mercury, but so does chronic inflammation.

We have now under our care a case, apparently of syphilitic affection of the testis. The patient is a gentleman who was not aware of the existence of any primary sore. But he became the subject of ulceration of the tonsils, and an eruption resembling in every particular the syphilitic lepra. For a long time sarsaparilla, iodine, and many other remedies were tried without effect. He then was attacked with inflammation, of a sub-acute character of the right testicle. This produced some effusion in the tunica vaginalis. Then there was a slighter affection of the left testis. He then came under our care. We put him under a mild course of mercury. The disease of the testis was much relieved, the left being apparently restored to its natural condition, although some hardness, and effusion remained on the right side. The ulceration of the throat healed, but the copper-coloured spots did not disappear. We continued the mercurial course as long as we could with prudence, and since that we have exhibited sarsaparilla, tonics, and medicines which we need not particularly mention. There is still, we say, some induration of the right testis, and the eruption has shewn a disposition to pustulate and scab. The case cannot therefore be yet considered as decisive of the cure of syphilitic affection of the testicle. But there are some peculiarities in it, which withdraw it from the range of common syphilitic cases.

The subject is one well worthy of attention.

PHRENOLOGY.—CASE OF SUPPOSED IMPAIRMENT OF THE FACULTY OF LANGUAGE.

The following short articles are derived from the last number of our quarterly contemporary, the Phrenological Journal.* The first is a case related by Mr. Gibson, surgeon, of Montrose. We notice it because we think some exception may be taken to the light in which it is regarded.

Case. In the evening of the 11th of May, Mr. G. was called to a woman, about 30 years of age, who had recently weaned her first child. She had latterly emaciated, and frequently complained of headach. About 8 P.M. she was found partially insensible, with her hand pressed on her forehead, and only able to say that she experienced great pain.

"She was put to bed, and was much in the same state when I saw her. She still often put her hand to her head, groaned and muttered occasionally, and took no notice of what was going on around her, except in firmly resisting me in making an attempt to bleed her. The pulse was not affected, nor was there any heat of head, or of surface generally. We succeeded in forcing into her mouth a little sugar, with three drops of croton-oil upon it, of which she appeared to feel the disagreeable flavour. Next morning she was quite insensible. I then bled her freely, and gave more croton-oil, till the bowels were well acted on. She, however, remained perfectly insensible for five days; during which time leeches were applied to the head, blisters and sinapisms to the nape of the neck, spine, and lower extremities, and turpentine embrocations to the loins and epigastrium. A little tea, which she swallowed from a tea-spoon, was her sole nourishment. Gradually she began to throw off the stupor, to notice, to take nourishment, and to move about. Her speech, however, was very much affected:—At first she only uttered inarticulate sounds;

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* Phrenological Journal, Dec. 1835.

then single words very indistinctly, and generally inapplicably; and, when she did begin to utter sentences, they were very unconnected and unmeaning, the different words being either wrong or strangely jumbled together. It has been very slowly that she has acquired the use of speech, and it is only now that, with difficulty, she can give an account of her feelings during her illness. She says that she was first attacked with pain in one side of the head; that it soon went to her forehead; and that then, as she expresses it, 'it fell down into her EEN,' where it has remained more or less ever since, excepting, of course, during the five days that she was insensible. She refers the pain to a spot immediately above and behind the eyes; and, when I desire her to point out the spot, she puts her fingers beneath the superciliary ridge, presses back the eye as far as she can, and says that it is there and farther back. She complains much of her defect of speech; she says that she knows perfectly what words she ought to use, but cannot get them expressed. She has no other complaint now remaining, excepting a slight dimness of sight, which is going off gradually."

Setting aside phrenological considerations, there can be little doubt from the collateral circumstances, the history, the symptoms, and the results of treatment, that this patient laboured under inflammatory action of the brain in *some* part. Was that part the seat of the faculty of language? To answer this question we must carefully distinguish two things—the faculty of language, that is, the conception and remembrance of conventional signs for ideas—and the power of giving those symbols utterance. The first is obviously an intellectual operation, the provinces of the brain—the second, a comparatively mechanical process effected by the tongue.

In the case we have related it seems clear to us that it was not the intellectual function that was injured, but the power of directing the tongue that was impaired. The patient said that she knew well enough what words she ought to use, but she could not get them *expressed.* If the conception and remembrance of language had been lost, she would *not* have known what words to use. It is clear that she had lost the due control of the various muscles engaged in the articulations of sound. The truth is, that some of the cerebral nerves were interfered with at their origins. Probably those that suffered most were the ninth and optic; for, independently of the defect of speech, there was slight dimness of sight. We make these remarks because loose observations and indefinite statements are seldom of benefit to any science.

PHRENOLOGICAL QUACKS.

We are glad to perceive that our phrenological contemporary has taken these gentry in hand. It would be digusting, if it was not so absurd, to witness the mountebank performances of some persons who profess phrenology. They thumb the heads of gaping or of laughing audiences at sixpence or a shilling each, and pronounce, ore rotundo, the elaborate characters of Styles and Noakes, who, fifty to one, have got no characters at all. We have been at some of these exhibitions, and a more complete travestie of a science we never in our lives have seen. We hope the philosophical phrenologists will put this egregious humbug down.

II.

SPIRIT OF THE FOREIGN PERIODICALS, &c.

On Monstrosities in General.

The meaning of the words, monstrosity and monster, is not easily defined. We cannot draw a satisfactory line of demarcation between the irregularities of animal formation so designated, and those minor ones, which are usually called anomalies of, or deviations from, normal structure.

In ordinary language, the acceptation of the word, monster, has reference almost solely to the distortion of the external shape or configuration of the being; and scientific men, while they acknowledge its imperfection, or rather erroneousness, have been obliged to retain it for want of one of more precise import. It is however to be well remembered, that the mere study of the outward and visible features of monsters can be of little use; that the bare enumeration and arrangement of them from such data can furnish but a vague alphabet of terms, and cannot throw any light on the obscure but very interesting subject of their etiology. It has been only within the last thirty years that the study of monstrosities has been pursued as a branch of science, and that it has led to any interesting results. There is no want indeed of marvellous cases in the folios of former days; but there is a want of a guiding principle to enable the reader to draw any useful conclusions from them.—Hence it has happened that, although the works of anatomists of every age have teemed with descriptions of monsters of every form and size, the field of enquiry was nothing but a "tabula rasa," until enlightened by the discoveries of such men as Meckel, St. Hilaire, and Serres.

It is but fair however to state, that to Littre, who lived at the commencement of last century, perhaps the great merit is due, of having first announced a rational explanation of some monstrosities. The principle on which this explanation is founded, and which has been so beautifully developed and amplified by the distinguished anatomists of France and Germany in the present century, is the simple one of regarding certain deviations of structure as the results, not of any unmeaning perversion, or chance confusion of formation, but of a mere arrest of development, during the successive changes which the organs invariably undergo in the fœtal state. Numerous examples illustrative of this most ingenious idea will be enumerated in the course of this article. To other monstrosities indeed the law of arrested development cannot be made to apply; but even with respect to these, the researches of Geoffroy St. Hilaire, and other philosophers, have accumulated some very striking facts, which may yet lead to a satisfactory solution of the problem of their formation.

If we take a general view of the various deviations of normal structure which organised bodies may exhibit, they may be all conveniently grouped either as irregularities of formation, or as irregularities of texture. The former occur only during intra-uterine life, and before the being is perfectly developed; while the latter occur most usually after birth. True it is that we speak of postgenital irregularities of formation; but they are essentially different from those now under consideration, and are, properly speaking, merely the results of a previous change of texture, under the operation of which the organs may lose their normal shape.

The period of intra-uterine life at which monstrosities originate must differ much, according to the nature and extent of these deviations. Because a fœtus is born monstrous, it does not necessarily follow, that the being had

never a normal form. It is quite probable that the form may have been strictly regular during the early stages of evolution, and may have become modified at a later period in consequence of some error of the ulterior development.

Now this error of development may have taken place in several different ways: sometimes the formative power (to use a German expression) has less energy than is usual; and then the development of the organ or organs is checked; they are imperfect, or altogether deficient. At other times this formative power has been unusually energetic; and then the organs will exhibit an excess in size, or a redundancy in number. Or, lastly, it appears that the formative power may undergo a simple perversion, without being accompanied with either an excess, or a defect of development; and hence modifications in the direction and position of organs, more or less important, may be induced: as examples of such a perversion, we may mention a general transposition of the viscera, certain irregularities in the origin of the arterial trunks, &c.

Under one or other of these three great sections, may be arranged every variety of monstrous growth.

However numerous and varied monstrosities may be, it is very apparent that nature obeys certain laws and limits, even in the case of these very exceptions from her ordinary works. We may be quite assured, that there is no such thing as fortuitous, or haphazard contigencies, even in *her* most wayward irregularities. No one has ever heard of such an extravagant malposition as that of the lungs, being developed in the cranium, or of the brain being formed in the pelvis; and again, however abnormal the deviations of a monster may be, yet never is there such an utter confusion of organs, that a mucus and a vascular tube, such as the intestines and the aorta, are continuous with each other. All this however might happen, if the forming energy was not subjected to certain laws during the apparent disorder of its action.

So far from there being any chaotic confusion of parts, even in the most abnormal of monstrous growths, it is a most curious and highly instructive fact, that many of these very irregularities occurring in the fœtuses of man and of the higher animals, are in truth the natural formations in some of the lower tribes of animals. Thus, for example, the human brain, if arrested at a certain period of its evolution, may appear more or less exactly analogous to the normal condition of the organ in fishes or in reptiles; and many of the congenital malformations of the heart are almost exact types of this organ in these tribes of animals. The converse, however, of this proposition is never true: we mean to say, that never does the brain, or any other organ, in these inferior animals, attain a degree of developement at all equal to the natural developement of the part, in the animals which are above them in the scale of existence.

Whenever the deformity of a monster is considerable, we almost invariably find that there is more than one part or organ of its body abnormal in structure and configuration. The deviations may all belong to the same class or section: for example, all of them may consist in either a deficiency or an excess of the natural development. To such monstrosities Meckel has applied the epithet of compound or composite; whereas those which exhibit errors of formation, of different sorts, he terms "complicated."

The complicated monstrosities are of more frequent occurrence than the compound. The cause of this greater frequency is doubtless attributable to the operation of that law, so well illustrated by M. St. Hilare, in virtue of which the excessive nutrition of one organ induces a greater or less degree of atrophy of another, and vice versa.

Numerous are the applications which may be made of this law of compensation (balancement) in the study of teratology. Thus it is not uncommon, that when one hand or foot is furnished with supernumerary fingers or toes, the other corresponding member has not its natural number. It is worthy of notice here that a redundancy of fingers and toes is not an unusual occcurrence,

whenever there is an incomplete development of some important organs of the body. Meckel has made this remark of cyclopic or monocular monsters.

When the encephalon is more or less deficient, there is very commonly an excessive development of the face.—When the lower extremities are imperfectly formed, the number of the vertebræ and of the ribs is often increased. When the heart and liver are deficient, as is frequently the case in acephalous monsters, the size of the kidneys is generally much exaggerated. This same law of compensation may be traced in the conformation of such monsters, as have some important part doubled: thus when there are two trunks, the head is often wanting; and on the other hand, in bicephalous monsters, the spine is often bifid. In such cases, other parts and organs are usually imperfectly formed: thus the abdominal integuments may be utterly awanting; the intestinal canal may be incomplete; the urethra be imperforate; and the rectum and bladder may terminate in a common cloaca.

Another application suggested by Meckel of the law of compensation, but certainly one of doubtful propriety, is that in the different members of the same family a monstrosity of excess in one may be, as it were, compensated for by a monstrosity of defect in another. Thus a case is reported by Morand of a girl who had a supernumerary digit on each hand and foot. One of the hands of this girl's sister was fingerless.

With respect to the comparative frequency of monstrosities "par exces, ou par defaut," in different parts of the body we may state it as a general rule, that the external parts are much more frequently increased in point of number than the internal parts. It is rarely that we find more than one heart, one intestinal canal, two lungs, or that a double genital or urinary apparatus exists; whereas few monstrosities are more common than that of supernumerary extremities.

Meckel has announced, (shall we say established?) the general law, that the organs or apparatus of organs, whose nerves are supplied from the cerebro-spinal axis, as the muscular system, the larynx, and lungs, are less frequently malformed, than those which derive their nerves from the great sympathetic, to wit, the digestive, the genital, the urinary, and especially the vascular system. This law, if established, is the more remarkable, as the cerebro-spinal system itself is much more liable to changes of conformation than the ganglions of the great sympathetic.

Some irregularities of formation are as frequent on one side of the body as on the other; for example, this is true of redundant, or deficient digits: others "affectent une singuliere predilection" for the left side. Meckel has made the remark that when the vertebral artery arises directly from the aorta, it is almost always the left one. Monstrosities are of more frequent occurrence in the upper than in the lower half of the body: supernumerary fingers are more common than supernumerary toes.

Haller and Meckel have concluded from their researches, that monsters of the female sex are greatly more common than those of the male. Of 80 examples collected by the latter anatomist, three-fourths of the number occurred in female fœtuses. The cause of this difference is probably to be sought for in the curious fact that, during the earlier stages of the evolution of the being, there is but one sex, viz. the female, as is normally the case in the lower members of the animal scale. To say, therefore, that the greater number of monsters are of the female sex, is merely equivalent to affirm that, in most of them, the development of the genital organs has been arrested at an early period of fœtal life.

That certain monstrosities, such as the existence of supernumerary digits, are of hereditary communicability, appears to be very probable from a multitude of examples recorded by Meckel, Morand, and Osiander. It has been remarked, that double-headed or double-bodied monsters have proceeded more frequently from women who have had twins before, than from those who

never gave birth to more than one child at a time.

After these preliminary general observations, we shall now briefly review some of the most interesting and best ascertained facts, in reference to each section of the ternary division of monstrosities; and, first, with respect to monstrosities "par defaut."

The organs of the body which are most frequently found defective, are those whose normal development is known to be the most tardy. One of the organs most early evolved is the intestinal canal; being at first simply a continuation of the vesicula umbilicalis, it is gradually prolonged into two portions, an upper (the small intestine and stomach) and a lower (the large intestine.)

Now, in every monster hitherto examined, some traces of an intestinal tube have been found. The primordial portion of it is invariably present; whereas the other portions of it, which we know to be of subsequent growth, are not unfrequently defective, or even entirely absent. If the upper or lower prolongation has been arrested at an early period of its evolution, it will be found to be of very short extent, and to terminate in a cul-de-sac. The stomach being evolved subsequently to the small intestine, we can readily understand how the former viscus may be either altogether awanting, or so imperfect, that it looks only like a continued portion of the small gut. On the same principle, we may explain the more or less complete deficiency of the rectum, and several other congenital malformations, not unfrequently observed in monstrous fœtuses.

Whether the urinary bladder is, or is not, the continuation of the allantoid membrane, it is known that this viscus, and also the kidneys are developed at a very early period of fœtal life. Hence we may, à priori, conclude that the urinary organs will be seldom, or almost never, utterly awanting. Observation shows the correctness of this conclusion; for, in the most imperfect and deformed monsters, some traces of a urinary apparatus are almost invariably found.

The vascular and nervous systems, also, are very early developed. Their primary lineaments are found in the apparently homogeneous mass of which the very young embryo consists; and their perfect development being slow, gradual, and not completed even at the end of the ninth month, the irregularities of their formation are among the most common of all abnormal deviations of animal structure. Both of these great systems may be considered as formed by the successive re-union of several secondary systems, each of which has, in some degree, an independent developement. Thus, in the case of the nervous system, it has been demonstrated that the nerves, instead of issuing from the cerebro-spinal axis, are actually formed before it. Now, in accordance with the law which we have been illustrating, we find that irregularities of the great nervous centres are of more frequent occurrence than irregularities of the nerves themselves. The spinal marrow being developed anteriorly to the encephalon, the former is more rarely deformed than the latter; and, with respect to the encephalon by itself, the very parts of it which are of latest formatibn are most subject to congenital alterations of size and form.

It was long a prevalent notion, that the heart is one of the parts of the body which is most early developed. This is quite a mistake. Many of the blood-vessels are formed before there is any vestige of a heart apparent; and when it does appear, its structure is very different from what it is at the ulterior periods of fœtal existence. At first it is only a simple tube or canal continuous with the aorta or dorsal vessel. Gradually it swells or bulges out into a rounded sac, consisting of but one cavity. The division of this cavity into separate chambers is an act of subsequent development. Now it is in those very parts of the organ which are of latest formation, that monstrosities or irregularities of structure are most frequently observed.

The persistence of the patency of the foramen ovale, after birth, is the most common of these irregularities. More rare is the imperfection or deficiency of the ventricular septum—a state of

things, however, which is the normal condition of the human heart, at an early period of fœtal life.

At a still earlier stage, there is no obvious distinction between the auricles and the ventricles; and hence this disposition of parts is still more rare in monsters than the preceding one. The most rare of all cardiac malformations is the existence of a simple tube or vessel in the place of the heart, such as we observe in the heart of all fœtuses when the organ is first appreciable, and such, also, as is the normal condition of the heart in some of the inferior tribes of animals. Thus, these different malformations afford a most convincing illustration of the operation of arrested development, as the cause of their production.

If our limits permitted us, we might extend our observations to the osseous and other systems of the body, and we should find innumerable examples confirmatory of the law, that those parts which are of latest evolution are the most frequently malformed or monstrous; and vice versâ.

If, from the consideration of individual organs, we turn our attention to the external "ensemble" of the body, and to the great regions or segments of which it is composed, we shall discover that those regions which are most tardily developed are more frequently incomplete or entirely absent than the others, which have preceded them in evolution. In the very early period of gestation, the embryo appears to consist altogether of abdomen. Now no monster has ever been found, in which this section of the body, more or less perfect, has been deficient; the head, thorax, and extremities are occasionally entirely absent, but invariably there is something of an abdomen to be discovered, just as we observe to be the actual and normal state in the commencement of embryotic existence. The converse of this proposition, viz. that the head and thorax may be formed without any vestiges of an abdomen, has never been verified. It is opposed alike by physiological reason, and by the results of anatomical research.

The genital organs being late of formation, imperfections of these are among the most common of all monstrosities. The eye precedes the ear in development, and observation assures us that it is less subject to congenital defects than the latter organ.

The recent enquiries in human and comparative embryology have clearly shown us that most organs, in their formation, are much more independent of each other than was generally believed before; and that, consequently, the arrested development of one organ does not necessarily induce a similar condition in any other. For example, we now know that the nerves are formed independently of the encephalon and spinal marrow. Numerous cases of anencephalie and amyelie (derived from α, priv. and μυελος medulla) establish this position.

The nerves seem to be formed primarily in the substance of the different organs themselves, and are only subsequently joined to the great nervous centres, with which they are to be so intimately connected in after-life. The developement, therefore, of the nerves is much more dependent on the presence of the organs to which they belong, than on the presence of the brain and spinal cord. A double-headed monster, examined by M. Serres, afforded an apt illustration of this law: although there were two brains, there were not more than two pneumogastric nerves—and why? because, there being but one body, not more than one pulmonary and digestive apparatus was present. In the opposite kind of monstrosities, viz. where there are two bodies, and only one head, M. Serres has always found a quadruple pneumogastric nerve—two to each body.

This ingenious physiologist has contributed much to the science of teratology. The hypothesis which he has advanced to explain the mysterious subject of monstrosities, although supported by many plausible arguments, has not met with very general adoption. He supposes that all deviations in structure and form of any organ is necessarily preceded, and indeed caused, by some irregularity or deficiency of the blood-vessels which are destined for its

supply. According to this doctrine, the blood-vessels of every part are first evolved, and the rest of the structure subsequently developed. If, therefore, these vessels, which convey the materials of growth and nutrition to the organ, be abnormal in number or distribution, it is believed that the organization of the part is necessarily deranged and altered. The more early the vessels of any part of an organ are formed, the more precocious, he says, will be the development of that part. Again, if the vessels be from any cause interrupted, or altogether deficient, the organ or member, which they are destined to nourish, will be incomplete or absent. M. St. Hilaire has adopted this hypothesis, and has laboured hard to establish it. But it must be acknowledged that it is founded on an assumption, viz. that the blood-vessels of a part must be always formed before any other structure; and the objection of Beclard, that it is impossible to determine which is really the cause, and which is the effect of the coincident phenomena, cannot be easily refuted. Indeed, some facts seem to be more favourable to the very reverse of Serres' hypothesis; thus, for example, in the organization of false membranes or morbid deposits, the blood-vessels appear to be developed in the very substance of these, at first as isolated red points, which gradually lengthen out into tubes, these tubes ultimately anastomosing with each other and with the adjacent vessels; cases, also, of anencephalie are on record, where not only the internal carotid, but even traces of its cerebral branches were nevertheless discovered.

So much for the law of "sanguiferous developement," which M. Serres has so ably endeavoured to establish.

There is another hypothesis respecting monstrosities which this scientific anatomist has advanced, to explain most of those "vitia confirmationis" which consist in fissures or divisions of organs which, in the mature being, are united and integral. Almost all these fissures are situated along the median line of the body.

This uniformity of position is ingeniously accounted for by the fact, that at an early stage of embryotic existence, the greater number of the organs are composed, in fact, of two portions, the interval between these portions gradually contracting until it is obliterated during the progress of development. These changes M. Serres refers to the more general law of concentric development, in virtue of which all parts of the body are formed from the periphery to the centre, and not from the centre to the periphery. If, therefore, the evolution be arrested, before the obliteration of the fissures or divisions of the organs has taken place, it must follow that they will appear as bilobed or bifid at the period of birth. Many of the congenital deformities affecting the cranium, the lips, the spine, sternum, abdominal parietes, pelvis, male genital organs, &c. may be adduced in favour of this hypothesis of M. Serres. All these monstrosities, therefore, are to be regarded as the results of an arrested development, at some period or another of fœtal life, and not, as was long supposed, of any disease—far less of a fortuitous growth. In the same manner may be explained most of the opposite class of monstrosities—those which consist either in the occlusion of passages normally open, the "atresiæ" (from α, priv. τραω, perforo), or in the reunion or concretion of parts normally divided, the "symphyses" of authors. To this class belong the imperforate condition of the rectum and urethra, the termination of these canals in a common duct, the persistence of the membrana pupillaris, &c.

Another great class of monstrosities, viz. those which consist in the inordinate size or multiplication of parts, may, at least in numerous instances, be traced to the same great law of arrested developement, which it has been the chief object of this article to illustrate. At present, we cannot do more than merely allude to them. Deviations, also, from the normal direction, and from the normal colour of organs have almost all their prototypes, in the conditions which are natural to the fœtus at some period or another of its early life.

The important discovery that these varying conditions, or states of organi-

zation, which the fœtus exhibits at different periods of its existence, and, consequently, that most congenital monstrosities also, are analogous to, and closely represent, the normal structure of animals lower than the mammalia in the scale, adds a great interest to teratological pursuits. That the human being, during its fœtal life, passes successively through several stages of organization, [which are the permanent conditions of animals below it in the scale,] from a very simple to the more complicated formation when it arrives at mature development, is established by a multitude of facts. A few must suffice us at present. The imperfection or absence of the extremities finds a parallel among the cetacea, and among many reptiles and fishes. The various changes of structure which the heart and large bloodvessels exhibit, and to which we have alluded at a former part of this article, afford still more striking illustrations. The heart, "allongé en vaisseau," of the young fœtus, and of some acephalous monsters, may be compared to the dorsal vessel of insects; when it forms a unilocular muscular sac, we are reminded of the heart in the crustacea; where there are two cavities—of the heart in fishes and many mollusca; where there are three (two auricles and one ventricle)—of the heart in the batrachia, and so forth.

Numerous examples may be drawn, also, from the alimentary, urinary, and genital organs. The imperforate state of the rectum and urethra, the termination of these passages in a common cloaca, the imperfect development of the stomach, the absence of the gall-bladder, the lobular and united state of the kidneys, the large size of the thymus and supra-renal glands, the permanence of the testicles in the abdomen, the bicorned state of the uterus, &c. all these are represented, it is well known, by the normal conditions of the viscera in question, in different tribes of animals. If our space permitted, we should draw other proofs from the irregularities of development which are observed in the osseous system. We must plead the same apology for the abrupt termination of these remarks, leaving unconsidered the second great department of monstrous growths, namely, those which consist in a preternaturally increased size or number of greater or less portions of the body. In our next Number we shall endeavour to complete the subject.

Case of Monstrosity.

Lateral Transposition of the Viscera—Great Cardiac Malformation, without Cyanosis.

The infant, the subject of the present case, was born with a double harelip, complicated with a separation of the intermaxillary from the left maxillary bone, for the extent of an inch. The mouth and left nostril being thrown into one cavity, there was a large gap at the fissure, through which the tongue and pharynx could be distinctly seen. The os incisivum closely approximated to the right maxilla was covered with a triangular flap of the lip, which adhered firmly to it. The left portion of the lip adhered so strongly to the left maxillary bone, and the separation of the osseous parts was so considerable, and extended so far backwards, along almost the whole length of the palate, that little could be done to remedy the deformity by operation. The velum palati also was bifid.

This infant presented no other outward irregularity of formation. It was large, vigorous, and emitted a tolerably distinct cry. The colour of the surface was quite natural. For some days, it seemed to thrive sufficiently well; it slept quietly, and the breathing was not disturbed, except when it attempted to swallow.

On the eighth day after birth, the operation for the harelip was performed. For some hours afterwards, the little patient did not appear much distressed; but, towards evening, the breathing became slow and very laborious, and death took place on the following morning, but without any appearance of cyanosis having ever been manifested.

Dissection. The heart was found to be situated in the right side of the tho-

rax, its apex pointing to the right fifth intercostal space: the arch of the aorta crossed from the right to the left side, and the vessel descended along the right side of the dorsal vertebræ. The two auricles seemed to form one large distended pouch, situated behind the ventricles; the appendices were elongated to a very unusual extent. There were two superior venæ cavæ, terminating, the one in the right, and the other in the left side, of the large auricular pouch, which received also the inferior cava and the pulmonary veins. The ventricles were most disproportionate in size —the left one was large, and the right one appeared as a mere appendage to it. On laying open the cavities, the septum was found to be imperfect towards the base. To the right of the aperture of the aorta, there was another aperture, which admitted the point of the finger, and which established a communication between the two ventricles. The right ventricle, from which the pulmonary artery arose, had no communication with the common auricular pouch or with the venæ cavæ, and, therefore, it must have received the blood, to be afterwards discharged into the pulmonary artery, only through the orifice which existed between it and the other ventricle. In short, it seemed to be rather a mere appendage to the left ventricle, than one of the regular cavities of the heart. The ductus arteriosus and the branches of the pulmonary artery did not exhibit any unusual appearance. On examining the internal surface of the large common auricle, there was observed a median longitudinal fold; the rudiment, no doubt, of the inter-auricular septum. By this fold alone, we were enabled to distinguish the right auricle from the left one. The orifice of one superior cava was found to the right of the fold, and that of the other to the left. The inferior cava also, and the pulmonary veins, terminated on the left side of the fold. The large common auricle had only one auriculo-ventricular orifice, guarded by an imperfect tricuspid valve, and leading into the aortic or left ventricle. The heart, therefore, in this child may be viewed as consisting of but two cavities—an auricle and a ventricle, such as is the normal condition of the organ in the batrachian tribe of animals. Most of the abdominal viscera were more or less malformed or displaced. The gall-bladder was situated to the left of the umbilical vein: the inferior cava was on the left side of the vertebral column; the vena portæ entered the liver at the left extremity of the tranverse fissure: the greater portion of the small intestines was found in the left flank; the cæcum, however, was in its natural situation, but the colon, after ascending a little way, was soon reflected upon itself, so that the sigmoid flexture was on the right side of the abdomen. One of the most singular characters of the present case was the utter absence of the spleen, and, on examining the cæliac artery, it was found that it gave off two branches only, the hepatic, and the superior mesenteric.

The preceeding case is one of great interest, as illustrating what extent of malformation of the heart is compatible with a limited duration of life. The entire absence of any cyanotic discoloration of the skin, and the comparative healthfulness of most of the functions under such circumstances, deserve particular notice. The respiration was never much distressed, except when the infant attempted to drink; but this, be it remembered, is very commonly the case, whenever the upper lip is cleft to a considerable extent, and the maxillary bones are separated from each other.

The hypothesis very generally held, that the symptoms of cyanosis are attributable solely to the commixture of the venous and arterial blood in an imperfectly closed heart, is shewn to be greatly erroneous. When the foramen ovale is merely patent, it is quite possible, as Meckel and others believe, that the two currents of blood may remain nearly altogether distinct; but such could not have been the case in the infant whose history we have reported, as the blood from the two cavæ and from the pulmonary veins was mixed together in the common auricle.

The curious tendency to a lateral

transposition of most of the organs in some monsters has not been satisfactorily accounted for. Arrest of development cannot surely be the real cause; for, although during fœtal life several organs, such as the heart, spleen, &c., are placed nearer the median line than after birth, no one has ever supposed that there is any positive change from one side of the body to the other, during the various phases which the young being undergoes.—*Dictionnaire de Médecine et Archives Générales.*

OBLITERATION OF THE AORTA, COMMON ILIACS, &c.

The patient, a woman, 51 years of age, was admitted last March into the La Charité Hospital, under the care of M. Louis. In 1812, she had suffered from a severe attack of rheumatism in the upper and lower limbs, which had left great weakness and muscular inactivity for upwards of a year and a half. In 1831, a numbness of the right leg came on without any appreciable cause: four months afterwards it affected the left limb; this symptom was always much aggravated by walking and other exercise. During the following year she began to experience dyspnœa and palpitations of the heart. All these troublesome symptoms had gradually increased, so that for the last year and a half she had scarcely ever left the house, and she had been obliged to sleep in an almost sitting attitude.

She was suffering at the time of admission from dyspnœa, and strong palpitation of the heart: there was a general yellowness of the surface; the lips were purple; the superficial veins, especially of the neck, were remarkably distended; there was no œdema of the lower limbs; the general health was so much debilitated, that gentle exercise of any kind soon distressed her. Mild aperients and diuretics were ordered.

The action of the heart gradually became more tumultuous and irregular, and the pulse was extremely quickened; the breathing was more oppressed, and a troublesome cough, accompanied with copious expectoration, partly bloody, came on. These symptoms became daily aggravated, and the patient was at length forced to be continually sitting upright, the dyspnœa and palpitations of the heart being so dreadfully violent: at each pulsation of the heart, the parietes of the chest were forcibly elevated, and on applying the hand over the cardiac region, a distinct "fremissement" could be readily felt. She died on the 10th day after her admission into the hospital.

Dissection. The pericardium contained about two ounces of a reddish coloured serum. The heart was found considerably enlarged in volume and hypertrophied: the left auriculo-ventricular orifice was contracted, so that the fore-finger could not be passed through it; its border was hard and thickened, and the mitral valve also was similarly diseased; the aortic semilunar valves were rigid and cartilaginous.

The aorta itself, from its origin unto the giving off of the renal arteries, appeared quite normal; below this point to its bifurcation it was contracted into a stiff unyielding solid cord; the iliac arteries, and their two great branches, were similarly affected, feeling under the finger as ligamentous cords.

The aorta having been slit open, it was found that its canal was quite pervious and free, until the point where the renal arteries were given off. At this point it was filled with a lamellated coagulum, which adhered to every part of its circumference except for about the breadth of a third of an inch posteriorly. The coagulum extended downwards to the point of bifurcation, and was thence continued along both common, internal, and external iliac arteries, adhering very strongly to the internal surface of the vessels at some points, and but loosely at others. How far the coagula extended along the internal iliacs or hypogastrics could not be satisfactorily determined, as the vessels had previously been divided in removing the pelvic viscera; in the right hypogastric, the coagulum was traced for upwards of an inch. In the left external iliacs the coagulum was traced downwards, becoming gradually

smaller and more tapering unto an inch below Poupart's ligament, where it ceased; on the right side, it traversed the whole extent of the femoral, sending off a division into the profunda femoris to the popliteal artery, and was thence continued along the posterior tibial, one half way down the leg, where it terminated in a few loose lamellæ.

The anterior tibial artery remained free. In the left popliteal there were several thin smooth lamellæ adhering to the internal surface of the vessel. It is not to be inferred that wherever the coagulum was found, it was a solid impervious substance, and that the canal of the artery was altogether plugged up. In the right and left common iliacs it lined the internal surface, forming a hollow cylinder, which terminated in a cul de sac superiorly at the bifurcation of the aorta, and inferiorly at the division of the vessel into the external and internal iliacs. Lower down in the external iliacs, the coagulum again became tubular and pervious, as far as Poupart's ligament on the left side, and on the right side along the whole extent of the femoral and popliteal vessels: in the posterior tibial, the coagulum was nearly solid throughout.

With respect to the abdominal branches of the aorta, the trunk of the cæliac was quite free: the splenic artery was partially obstructed by lamellæ of coagulum: so also was the superior mesenteric, after giving off one branch; the lumbar arteries were empty, but their orifices were plugged up; and the inferior mesenteric was obstructed "par un coagulum peu volumineux; le stylet ne peut traverser son orifice."

The canal of the middle sacral artery was pervious; but its orifice was plugged up. The right brachial also was partially obstructed by a coagulum, which adhered to its internal surface.

The internal coat of those arterial tubes, which were obstructed exhibited signs of a morbid change to a greater or less degree, according to their proximity to the bifurcation of the aorta, where these signs were most strongly developed; it was thickened, rugous, opaque, "peu consistante," and therefore more easily lacerable than in a state of health. These changes were most conspicuous wherever the coagulum was solid, impervious, and adherent most strongly to the inner surface of the vessel.

M. Barth, the reporter of the case, attributes the alteration of the arterial tissue to an inflammatory action, the consequence of which had been the deposition of a thin layer of coagulable lymph, either secreted from the vasa vasorum, or derived from the contained blood: the blood in consequence being partially impeded, began to deposit fibrinous layers, which gradually accumulated until the cavity of the vessel was more or less completely obstructed.

The coagulum once formed, the arterial parietes contract upon themselves, in accordance with the law of the vascular system, that whenever there is any obstacle to the free circulation of the blood, the vessels gradually close, until they become impervious ligamentous cords.

M. Barth is of opinion, that the disease of the blood-vessels commenced four years before her decease, at the period when she first experienced the numbness in the right leg and thigh. The formation of the coagulum being slow, the progress of the symptoms was consequently very gradual.

At what point the morbid change commenced, it is not possible to determine; but judging as well as we may from the post-mortem appearances, it seems probable, that the lower extremity of the aorta (between the giving off of the inferior mesenteric and the point of bifurcation) and the common iliacs were first diseased.

M. Barth proceeds to offer some considerations respecting the mode in which the circulation was most probably carried on, to compensate for the obstruction of the great arterial trunk in the lower half of the body. It is unnecessary to follow him through this disquisition, as the data are rather unsatisfactory. We may however state that the mammaries, the epigastric, intercostals, gluteals, &c. did not *seem* to be much enlarged in volume. It is to be remembered, however, that these ves-

sels were quite empty, and had not been injected with wax, as in the well-known experiments of Sir A. Cooper on dogs, in which the aorta had been tied.

In the annual report of the proceedings of the anatomical society of Paris for 1834, allusion is made to some interesting examples of partial and complete obliteration of the large arterial and venous trunks.

In one case, the right common and external iliac, and the crural arteries were found completely obstructed by sanguineous clots; the aorta also was partially obliterated. These vessels had evidently suffered from inflammation; their internal coats being highly injected and thickened, and traces of purulent matter, deposited either in the centre of the coagula, or on their surfaces, being found at different points.

In other cases, the obstructed arteries exhibited no appearances "d'une inflammation actuelle." The brachiocephalic trunk was once found almost entirely plugged up by a fibrinous clot.

Allusion is made to another example of the obliteration of the iliacs and of the lower end of the aorta.

An interesting case of arteritis, connected with gangrena senilis of the foot, occurred in an old woman who died recently at the Hotel Dieu.

Violent pains had been felt along the whole length of the affected extremity: these pains were always aggravated by the application of any stimulants. On dissection, the anterior tibial artery and its branches were found converted into fibrous cords: the crural and iliac arteries also were nearly quite obliterated: the inferior part of the aorta was partially so by a coagulum, in the centre of which was some purulent matter. The parietes of the affected vessels presented evident marks of having suffered from inflammatory action.

Although the following case of obliteration of the pulmonary artery is one not of vascular disease, but of congenital malformation, it will be read with interest. The infant was taken to a hospital, in consequence of "un endurcissement du tissu cellulaire:" the articulations were stiff; the pulse of the affected members was imperceptible; nothing abnormal in the pulsations of the heart could be discovered. The infant died on the 12th day after birth.

On dissection, the greater part of both lungs was found in a hepatised state. The heart was much larger than usual. The two ventricles communicated freely with each other at their upper part; and from about the centre of this part arose the aorta considerably enlarged. The pulmonary artery was not half the size of the aorta, and its tube formed a cul de sac towards the right ventricle, on whose inner surface no trace of any opening could be discovered. At a distance of eight lines or so from this ventricle, the pulmonary artery gave off some branches, and at this part there was a free communication between it and the aorta, by means of a ductus arteriosus.—*Archives Générales.*

OBLITERATION OF THE VENA CAVA.

In our respected Edinburgh cotemporary for last April, a most interesting example of this very rare lesion is related. It was discovered in the body of a female, who had entered the hospital with symptoms of hydrothorax and general anasarca. She died soon after admission.

On dissection, a large quantity of serum was found in the right pleural cavity: the kidneys were diseased. The tube of the superior vena cava was obliterated, and the vessel converted into a hard cartilaginous cord, from its junction with the right auricle, for the extent of two inches. Around this cord, especially at the lower part, there were numerous calcareous concretions. On examining the inner surface of the auricle, the opening of the vena cava was indicated only by a slight depression.

Unfortunately the dissection of the body had been already rudely performed, when this very curious lesion of the heart and vena cava was detected, so that it was not easy to ascertain exactly the state of the other contiguous parts of the vascular system.

The vena azygos was greatly enlarged, but its termination in the cava superior was quite obstructed: all the in-

tercostal and lumbar veins also were much dilated; and the vena cava inferior, which must have returned all the venous blood of the body with the exception of what was contained in the coronary veins, was so large, that it admitted readily three fingers, at its termination in the right auricle.

Allusion is made by the narrator of the preceding case to a curious anomaly of the abdominal venous trunk, which he once found. The common iliac veins, instead of uniting at the usual point to form the cava inferior, ascended separately to the level of the renal veins, where they joined together. The trunk thus formed passed through the aortic opening of the diaphragm in the place of the azygos vein, and terminated in the upper cava, before its entrance into the right auricle.

Dr. Deckart has related, in a thesis published at Berlin in 1823, an instance of the complete obliteration of the superior cava, the parietes of which vessel intimately adhered to, and were confounded with, an immense aortic aneurism.

Two similar cases are recorded, the one by Dr. Otto in his "Observations rares Concernant l'Anatomie," and the other by Dr. Reynaud, in the Journal Hebdomadaire for January, 1829.

In a case related to the Anatomical Society of Paris by M. Tessier, the iliac and crural veins were found strongly inflamed. At the entrance of the iliac into the vena cava, there was a false membrane, which completely obstructed the passage of the blood between the cava and the inflamed veins.

In another case of spontaneous phlebitis of the pelvic extremity, a large clot plugged up the canal of the common iliac vein, and had thus prevented the admixture of the purulent matter which existed lower down in the crural vessels with the blood of the vena cava.

In a patient who had died of ascites, the vena portæ was found quite obstructed by a sanguineous clot. (Was the dropsical disease the result of the obstruction? In part, probably.)—*Archives Générales.*

On the Auscultatory Signs of Pregnancy.

The sounds perceived on applying the ear to the abdomen of an unimpregnated female are in the majority of cases, merely the rumbling and rolling noises of the gaseous and fluid contents of the bowels, and the pulsatory beats of the aorta, or of some other of the large blood-vessels. The former of these sounds is too characteristic to be mistaken for any other; and the latter is a simple, uniform beat, unaccompanied usually with any distinct blowing, or whizzing noise. This pulsatory sound is generally most distinct in the epigastric region on the left side. A similar sound is not unfrequently perceptible in the corresponding part of the right side, and proceeds probably from the pulsations of the axis cæliaca. In the left iliac region also, a pulsation, accompanied sometimes with an indistinct murmuring, or humming sound, is often heard. This proceeds from the left iliac artery, and the cause of the humming sound is probably to be sought for in the relative position of the large artery and vein here, the one being somewhat underneath, and being somewhat compressed by the other.

Dr. Hohl has examined by auscultation many women, during the period of the catamenial flow; but in no instance has he detected any peculiar sound.

In women recently delivered, and especially when the uterus has not yet completely contracted, and strong after-pains are present, Dr. H. has found that, at the part where the placentary bruit had been heard during pregnancy and labour, a feeble humming sound may generally be perceived. It is somewhat more distinct at each beat of the pulse at the wrist, and it succeeds, by a very short interval, the pulse of the heart. When the uterus is hard, and has contracted powerfully, and the after-pains have ceased, this humming sound is heard no longer.

Dr. H. has communicated the results of his auscultatory experience in certain cases of abdominal disease, as enlargement of the liver, in dropsy, and other lesions of the ovaries, ascites, tympa-

nitis, &c., but as they do not establish any important practical conclusions, we shall not dwell upon them.

In the early months of pregnancy, the rumbling rolling noises from the contents of the bowels are heard as in the unimpregnated abdomen. After the sixth or seventh month, they become much more indistinct; and in the eighth and ninth months, they are perceptible only at the sides of the abdomen. This change is owing to the gradual displacement of the bowels, in consequence of the enlarging uterus rising and pushing them upwards and backwards.

In cases, therefore, of doubtful pregnancy, it may be worth while to attend to the circumstance now mentioned. It is indeed of minor importance, and can be admitted only as an auxiliary symptom; but the success of a physician often depends upon attention to some apparently trifling incident, which is neglected by others. We come now to the consideration of the characteristic or pathognomonic auscultatory signs of pregnancy.

It is admitted by all obstetrical auscultators, that two sounds, which are not audible in an unimpregnated female, are to be heard in the abdomen of a pregnant female, at least after a certain period of pregnancy. The one is a simple, uniform, and dull sound, accompanied usually with a blowing, whizzing, or murmuring noise, and its recurrences are synchronous with the beats of the woman's pulse. The other is much more rapid and sharper than the former; it is double, resembling the tic-tac of a watch, and its recurrences are quite independent of, and are very seldom or never synchronous with, the beats of the maternal pulse. These two sounds, therefore, are so dissimilar in all their characters, that they cannot possibly be mistaken the one for the other. As to the seats of these sounds, the prevailing opinion has hitherto been, that the first or blowing sound proceeds from the passage of the uterine blood into and through the placenta. For this reason it has been denominated the "bruit placentaire" by the French authors, and "placental-gerausch" by the Germans. Other authors, unwilling to involve any hypothesis in a name, prefer to call it "pulsation avec souffle," or "battement simple avec souffle." Ritgen calls it the "great beat," and he particularly alludes to the resemblance of this sound, with that which is usually audible in aneurismatic swellings, and more especially in that variety of aneurism, in which there is a direct communication between an artery and a vein. The extent, over which the placentary sound is usually to be heard, does not exceed a circle of an inch and a half, or two inches in diameter. Between each placentary bruit, there is no complete intermission of sound; for in the intervals there may generally be heard an obscure continuous sound, similar to, but much weaker, than the proper placentary bruit. At the corresponding part of the opposite side of the hypogastric region where the placentary bruit is most distinct, a similar and synchronous sound is sometimes perceptible. This arises no doubt from the mere resonance of the chief bruit; but in order that this resonance may be sufficiently strong to be perceptible, it is necessary that the uterus be well distended with the liquor amnii, and that its walls be firm and perfectly healthy. [Dr. Hohl assures us, that in some cases he has distinctly heard the fluctuation of the liquor amnii. He observed that this latter sound was always most distinct just before any movement of the fœtus, or any contraction of the uterus.] The placentary bruit not unfrequently becomes all of a sudden much less audible than it had been the minute before. Any change of position on the part of the woman, or any movement of the child will occasion this.

The second sound, peculiar to the state of pregnancy, is so remarkable, that if once heard it cannot possibly be mistaken for any other. As we have already said, it most nearly resembles the tic-tac of a watch heard at some distance. The number of beats in a minute usually varies, from 108 to 170 or 180. It is observed to be quickened after any movement of the child, and when this ceases, it gradually resumes its former frequency. At other times it suddenly ceases, or at least is no longer audible;

and then it as suddenly returns. It is quite independent of the maternal pulse, and appears not to be affected by any variations of it. With respect to the most common *seats* of the placentary and fœtal sounds, Dr. H. says that he has usually detected the former in the right epigastric region,* corresponding to the upper and posterior part of the uterus. In first pregnancies, it is almost invariably at this part that the placentary sound is heard. In subsequent pregnancies, it is not unfrequently heard lower down, and occasionally on the left side. As pregnancy advances, the seat of the placentary sound becomes gradually higher and higher in the abdomen.

The fœtal sound is most commonly heard in the left epigastric or hypogastric region.† Sometimes, but rarely, it is heard on the right side; and, more rarely still, in the course of the linea alba As a general remark, we may affirm that the placentary sound is heard on the right side, and the fœtal sound on the left side. Sometimes, however, the very reverse is the case: but this is certainly of rare occurrence. Occasionally, both sounds are heard on the same side; and then the placentary is almost always seated higher up than the fœtal sound. Exceptions, however, to this statement have been detected by Dr. H.

Dr. H. has never been able to detect either the placentary or the fœtal sounds, by applying the ear to the back of the mother.

In reference to the periods of pregnancy at which the two sound are usually first perceptible, Dr. Hohl's experience coincides with that of most of his predecessors. He has never heard the placentary sound before the fourth month, but frequently in the course of this month. At this early period, it is commonly heard in the right hypogastric region, obscure, and diffused over a considerable extent, without being decidedly more distinct at any one particular point. It is during the following, or fifth month, that it seems to become, as it were concentrated, or to be more loud and distinct at one point. Dr. H. has more than once observed, that the placentary sound became gradually more obscure as pregnancy advanced, without ever ceasing altogether; but, as a general remark, it may be affirmed, that as pregnancy advances, the placentary murmur becomes stronger and more extended, until towards the end of the ninth month, when it seems to be confined to rather a more limited extent than it was for some time previous. The fœtal sound he has never detected before the end of the fourth month, and rarely so early as this. In the fifth month, it is still very weak and indistinct, and it is only towards the middle or end of the sixth month that it is clearly recognizable. As pregnancy advances, it becomes more regular, and rather slower, than in the earlier months.

It is unnecessary to follow our author in the detail of numerous experiments, to prove that the placentary sound is invariably and uniformly synchronous with the maternal pulse, and, therefore, that it is affected by all changes in the frequency and force of this pulse. The fœtal sound, on the other hand, is quite independent of all these changes. The strength, indeed, of the fœtal pulse seems to be impaired, if at any time the respiration of the mother is impeded or distressed.

Dr. H. has never been able to satisfy himself whether the fœtal pulse is altered by any mental emotions affecting the mother. He is of opinion that its strength, but not its frequency, may be affected by such a cause.

With respect to the influence of diseases of the maternal frame on the fœ-

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* This statement is surely not quite correct. The words of the author are, "in der rechtem oberbauchgegend," which are translated literally in the text; but we think that he must rather mean the upper part of the right hypogastric region; unless, indeed, his remark is intended to apply to the more advanced stages of pregnancy.

† These two regions—the epigastric and hypogastric, are far apart from each other. The vagueness of our author's language justifies the remark in the preceding note.

tal pulse, Dr. H. found that those, which are attended with any disturbance of the breathing, had the most marked effect. When the respiration, from any cause, was much impeded, the fœtal pulse usually became more and more feeble, until, at length, it could be no longer heard. In other diseased states, provided the breathing was not much affected, it seemed to be but little, if at all, affected. Dr. H. says that female fœtuses are less affected by dyspnœa, on the part of the mother, than male ones (!) He mentions a case where a woman, in a state of partial derangement, had made several attempts to hang herself, and, failing in these, had thrown herself into a pool. Fortunately she was rescued; but it was with extreme difficulty that she was resuscitated. In the course of the following night she gave birth to a living female child. Large losses of blood render the fœtal pulse feeble and intermitting, or even altogether inaudible.

During the prevalence of the cholera, Dr. H. availed himself of several opportunities to ascertain the condition of the uterine and fœtal circulations, in patients labouring under this frightful malady. When the attack was not very severe, or that form of the disease, to which the name of cholerine was applied, existed, Dr. H. found that the placentary murmur was more feeble and indistinct; and that the fœtal pulse was but little affected, either in frequency or strength. But, in the more severe cases, where the cramps were severe, and the general exhaustion was great, the following changes were remarked by our author in four cases of pregnancy, which had advanced, in three, to the fifth, and in one, to the sixth month. In one case, with the sinking, or even the complete cessation of the radical pulse, the placentary murmur was found, at first to be rather increased than diminished in distinctness, and no change in the fœtal pulse was perceptible. Soon, however, the former sound became less and less strong, without entirely disappearing. Dr. H. was much in the habit of employing the affusion of cold water on the chest, with the view of relieving the oppressed breathing and circulation in cholera; and he tells us that so powerful was this simple remedy, that he repeatedly found that the blood, which before scarcely trickled from an opened vein, flowed freely, if the cold douche was used at the same time. This remedy had a very marked effect, in the present case, on the placentary murmur, rendering it at once more powerful and distinct. The fœtal pulse, all this time, remained but little affected. The woman recovered, and carried her child to the full time.

In another case, however, Dr. H. found that the placentary murmur became less and less obvious, as the pulse at the wrist sank. The fœtal pulse also became more rapid and indistinct, until it gradually vanished altogether. Delivery commenced and proceeded without almost any pains, and a dead fœtus was expelled, the woman seeming to be unconscious of what had taken place.

In a third case, the woman, 30 years of age, was seized with genuine cholera on the 30th of January. The placentary murmur was almost immediately affected, and the fœtal pulse became feebler and more rapid. On the following morning, the fœtal pulse was no longer perceptible. In the course of the afternoon, after a fit of violent shivering, labour commenced. The vagina felt, on examination, very hot, and the lower segment of the relaxed uterus, enveloping the head of the fœtus, was found to have descended low into the pelvis. The os uteri felt to the finger like a piece of soft wax. The pains of labour were very feeble. After three hours' continuance, a dead child was expelled, and the placenta followed immediately afterwards. Scarcely one drop of blood was lost; but a greenish-coloured gelatinous discharge escaped when the uterus contracted, after expelling its contents. The woman felt herself immediately afterwards better, and the remedies which were used against the cholera symptoms acted now with more decided benefit. The mammæ, which had become much shrunk, increased in volume, and the health of this patient was gradually but completely restored.

Dr. H. has had occasion to deliver several children, either by turning and extraction per vaginam, or by performing the Cæsarian operation, immediately after the death of the mothers from cholera—but in none of these cases did the children exhibit any traces of life. They, as well as the placenta and the umbilical cord, were always exceedingly pale and bloodless. The temperature of the interior of the vagina, and of the uterus, was in every case remarked to be extremely high. Dr. H. has had no opportunity of ascertaining the effects of syncope in the mother on the fœtal pulse.

In two cases, where regular menstruation continued until the sixth month of pregnancy, Dr. H. ascertained that, during the period of the flow, the placentary murmur was louder and more whizzing than at other times. This increase of sound is probably attributable to the increase of congestion in the uterine vessels, just before and during the discharge of the catamenia. We have already remarked, that the placentary murmur becomes more loud and distinct during labour-pains; and doubtless this is owing to the same cause. The fœtal pulse, in the two cases just alluded to, remained unaltered.

From the preceding observations, we may fairly conclude that the state of the circulation in the fœtus is in a very great measure independent of the maternal circulation, and that it is but little affected by diseases of the parent, unless these are accompanied with great dyspnœa, and obstruction to the pulmonary circulation.

CHANGES IN THE TWO SOUNDS DURING LABOUR.

The placentary sound is much more uniformly affected by labour than the fœtal sound. It usually becomes more frequent, louder, and of a deeper tone during the whole process, and more especially just before the occurrence of each pain. Indeed, so very marked are these changes, that, by auscultation, we may discover the coming on and continuance of each pain, before the woman makes any complaint, and although she endeavours to smother it.

As soon as, or even before, each pain begins, we may hear a sudden and short continued rustling sound, which is probably occasioned by the agitation of the liquor amnii, in consequence of the contraction of the uterine walls, and of the movements of the fœtus. Almost at the same moment, the placentary murmur becomes louder and more distinct, and it is frequently accompanied with whistling singing sounds, not unlike those produced by striking a cord already in vibration, which previously were not perceptible. As the labour-pain increases in strength and extent, the placentary murmur seems to become gradually more and more distinct from the ear, until at length it is extremely dull, or even altogether silent. As the pain reaches its acmé, and then gradually abates and ceases, so the bruit gradually returns, recovering the intensity which it had at the commencement of the pain, and at length resuming its original characters, viz. those which belonged to it before the setting in of the uterine contraction. These phenomena are not recognizable, if the pains be at all irregular; the increased distinctness of the sound, and its seeming removal to a greater distance from the ear, are then very partial and imperfect. The same remark holds true when the pains are excessively violent and short-continued. Indeed, the presence and the character of a labour pain may be most truly ascertained by the experienced obstetrical auscultator, by his simply attending to the changes which happen to the placentary bruit, while the pain lasts, even although the woman should most heroically smother all expressions of her suffering. During the continuance of the pain, if the pulse at the wrist becomes fuller and quickened (and this is almost always the case,) the placentary bruit will be found to be correspondingly affected, giving rise to what may be described as a regular ebbing and flowing of its intensity.

Dr. Hohl has had occasion, in several cases, to watch the effects of the secale cornutum on the uterine sounds,

and he found, that very generally within a short time after its exhibition, the intensity of the placentary bruit was augmented, even before any increase of the pains was felt, or at least expressed, by the woman.

The effects of labour-pains on the fœtal pulsations are, on the whole, very inconsiderable. Immediately before the coming on of a pain, and just at the time when the rustling noise occasioned by the liquor amnii is perceived, the pulsation becomes rather less distinct, and seems as if it were further removed, or more distinct from the ear, than it was before. But these changes are very slight, and soon pass away. They are no doubt attributable, in some degree, to the movements of the fœtus, and, therefore, they are not usually perceived when the head becomes fixed in the pelvis. When the liquor amnii has been discharged, and the child advances more and more to the outlet, the seat of the fœtal pulse becomes, as a matter of course, lower in the abdomen. When the pains are very severe, the fœtal pulse is less distinctly audible. Sometimes it ceases to be heard at all, even although the life of the child remains as perfect as ever.

Some difference of opinion has existed among authors, as to the real cause and origin of the sound to which we have, in the preceding pages, affixed the name of the placentary bruit, or placentary murmur.

This name, indeed, involves the hypothetical assumption, that the sound is owing to the passage of the blood into and through the substance of the placenta. Dr. Hohl adduces the following arguments in proof of this view of the question.

1. No such sound is heard in unimpregnated females. "For this murmuring pulsation (says he) is not a mere throbbing, as in the case of a large artery, nor a simple, one-toned beating, but a compound, many-toned, humming sound—sometimes sharper and higher, at other times deeper and more bass—now of a whistling character, and then having more of a hissing or whizzing one. These characters are, however, merely, as it were, accompaniments of the primary or essential bruit, and serve to prolong and to continue each cadence into the following one. This murmuring pulsation may, therefore, be described as consisting of one main or principal beat (haupt-schlag), accompanied with a resonance or after-sound, during the continuance of which another main beat recurs, so that there is never a complete interval of repose, or intermission of sound.

2. The murmuring pulsation (placentary bruit) may be heard in every pregnant woman, by a practised ear.

3. The sound becomes first audible when the uterine vessels enlarge, and prolong themselves to form the maternal portion of the placenta. By the fourth month, the placenta is developed, and it is usually about this period that the sound is first distinctly perceived. During the expulsion of the child, when the uterus has contracted upon itself considerably, and the close union between its walls and the adhering placenta is more or less interrupted, the sound becomes immediately more obscure. Even before labour has commenced, and, indeed, generally during the last week or two of gestation, the placentary murmur is less distinct than it had been, and it acquires, at the same time, a peculiar piping or whistling character. These modifications of the sound are, probably, owing to certain changes occurring in the placenta, and to a smaller quantity of blood being sent through it now than before. The impulse of the blood through the uterine vessels becomes less, in consequence of there being less occasion for the large supply of it towards the end of the ninth month; and, hence, the pulsatory murmur is not so strong as it had been previously. It is not easy to determine what is the cause of the piping or whistling notes, which so frequently accompany the sound in the latter weeks of pregnancy. Perhaps they are owing to the partial obstruction to the free transmission of the blood, in consequence of the uterine vessels becoming gradually more contracted, and to their being occasionally filled more or less with a calcareous deposit. Dr. H. says that, in those

cases in which the whistling notes were heard by him most loud and distinct, the placenta was found, on expulsion, to be considerably altered and somewhat shrivelled (veralteste,) as if it had been out of the body for some time.

4. The placentary murmur is heard much more frequently on the right than on the left side, and very generally opposite to the fundus of the uterus. Now it is acknowledged by all the best obstetrical writers, that by far the most common attachment of the placenta is to the fundus of the uterus, and oftener on the right than the left side. The reasonable inference therefore is, that the seat of the sound is connected with the position of the placenta.

Whenever the placenta is attached over the os uteri, the murmuring pulsation is invariably heard opposite to this part of the womb, and not in the usual place—higher up. The sound, too, is always more indistinct than under ordinary circumstances, in consequence, no doubt, of the greater depth in the abdomen of the cervix than of the fundus of the uterus, and also from the blood-vessels at the former part, never acquiring the same size that they do, at the latter.

5. Some auscultators having attributed the murmuring pulsation to the partial compression exercised by the pregnant uterus on the iliac blood-vessels, Dr. Hohl endeavoured to satisfy himself of the fallacy of this idea by the following experiments:—He examined several women in various attitudes—as standing, lying on the back, and leaning forwards, so that they rested the body on the knees and hands; thus the abdomen was protruded as much as possible, and in this way, any pressure of the womb on the arteries situated behind it was removed. Now, as in all these attitudes the murmuring pulsation was perceived, with almost equal distinctness, we may fairly conclude that it is independent of any bloodvessels merely adjacent, but not belonging, to the womb; and this inference is corroborated by the fact, that if we apply the stethoscope to the sides of the pelvis or abdomen while the woman is reclining forwards, we may often distinctly recognize the pulsations of the iliac arteries at the same time; but these pulsations will be found to be very different from the murmuring pulsation of which we are at present speaking.

6. The extent, over which the murmuring pulsation is usually audible, is limited to a space which nearly corresponds with the size of the existing placenta In the earlier months of pregnancy, this extent is considerably smaller, than in the more advanced stages; and Dr. Hohl has assured himself that, in the cases of twins and triplets, the sound is generally extended over a much larger space than when there is only one fœtus present.

7. Dr. Hohl says that he could, with tolerable certainty, predict the presence of the calcareous deposition in the placenta (a state which is usually found in the placenta at the full period) by a certain piping or whistling tone, accompanying the usual placentary bruit.

We have already alluded to this accompanying sound, and have endeavoured to explain the origin of it, by supposing that some of the placentary bloodvessels become more and more obstructed by the calcareous matter deposited in their canals during the latter stage of pregnancy, and thus afford a certain degree of impediment to the passage of the blood through them.

8. When the placenta becomes, from any cause, partially detached from its connexion with the uterus, the distinctness, as well as the extent, of the placentary bruit is immediately diminished. When it is completely detached, the sound ceases entirely, "geht ganz verloren."

9. It is well known that some women suffer, during their pregnancy, a fixed pain at that part of the uterus, where it is generally believed that the placenta is attached. Now, in all the numerous examinations made by Dr. Hohl in such cases, he has invariably discovered the existence of the murmuring pulsation over that part; and he has also remarked that, when the navel-string has been coiled round the neck of the child, and the traction thus sometimes induced during labour has occasioned a pain at one part of the uterus, that part has always been at the very spot where the sound had been

heard during pregnancy. Moreover, in cases where the placenta has adhered more firmly than usual after the expulsion of the child, upon dragging the cord with considerable force, so as to cause pain at the point of the uterus where the placenta was fixed, that point invariably corresponded with the seat of the placentary bruit.

10. M. Majon assures us that, if a fluid be injected into the umbilical cord, while the placenta is still adhering firmly to the uterus, the murmuring pulsation immediately becomes louder and more distinct than it was before, and we hear the same sort of streaming sound (fluth) as is perceived before the commencement of a labour-pain.

11. If the hand be introduced into the uterus after the expulsion of the child, the placenta will be found adhering to that part over which the murmuring pulsation had been heard.

From the arguments now adduced, it appears to us to be established, that the murmuring pulsation is owing to the current of the blood passing along the enlarged uterine vessels into the cellular substance of the placenta. The humming or gently buzzing sound, between each pulsation, may be ascribed, says Dr. Hohl, partly to the momentary tarrying or retardation of the blood during the interval between the pulsations—partly to the tremulous or oscillatory movements of the veins, and partly, also, to the electrical play of the globules of blood attracting, repelling, and blending with, each other in the cells of the placenta. This humming sound ceases almost entirely, when the communication between the substance of the placenta and the uterine parietes is interrupted.

The increase of the murmuring pulsation immediately before, and its diminution during, a labour-pain, are attributable, no doubt, the former to the accelerated, and the latter to the obstructed, circulation along the uterine and placentary vessels, in these two different conditions. If it be asked, how comes it that the murmuring pulsation is limited to the immediate seat of the placenta, and is not heard over every part of the uterus, seeing that all its bloodvessels are greatly enlarged during pregnancy we answer, that the increase of the size of the bloodvessels in the neighbourhood of the placenta, is much greater than elsewhere; and, moreover, that the peculiar mode of the circulation from the uterine parietes into the cells of the placenta, is to be taken into account. The pulsatory murmur continues to be heard, but only very faintly, after the expulsion of the child, until the uterus has fairly contracted; and then it is no longer audible.

In a former part of this article, we have alluded to the marked resemblance of the pulsatory murmur with the humming sound which follows it, to the auscultatory phenomena of a large aneurismal varix. Dr. Hohl considers that the structure of the placenta is similar to that of such a varix; "for here (says he) there is the same mixing of the arterial with the venous blood, the same friction of the blood-globules upon each other, the same attracting and repelling between them, and the same electrical play to which the blood in the placentary cells is subjected."

Our author having discussed the subject of the murmuring pulsation or the placentary bruit, proceeds, with his accustomed wearisome minuteness, to expound the reasons for his belief, that the other auscultatory phenomenon peculiar to, and indicative of pregnancy, is owing to the action of the fœtal heart.

It is almost unnecessary to follow him through these details, as we suppose that, in the present day, no one is inclined to question the correctness of this explanation.

The reason of this sound being not audible before the fifth month is doubtless the small size and feeble action of the fœtal heart. We may also add, that it is during this, the fifth month, that the fœtal heart is directed towards the left side, and that the arterial or left half of the organ, hitherto much smaller than the venous or right half, becomes larger, and attains that proportionate size which it retains ever afterwards. The fœtal sound is invariably most distinctly heard over that part, where the left side of the fœtal thorax is lying. When the uterus is more

than ordinarily distended with liquor amnii, the sound of the fœtal heart is heard over a larger extent than usual. As a very general rule, the fœtal sound is heard on the side opposite to that in which the placentary bruit is audible. In the case of twins, the tic-taccing sound may frequently be heard in two different places, provided the fœtuses be quite motionless at the time of examination. In the case of triplets, Dr. Hohl tells us that it is not possible to distinguish the various pulsations; "all is a chaotic beating; and the difficulty is increased by the loudness of the placentary murmuring under such circumstances."

Whenever the umbilical cord protrudes through the os uteri into the vagina before the child, and we are enabled to count its pulsations, the number of these will be invariably found to correspond with the number of the beats of the fœtal heart heard through the abdomen of the mother; thus establishing, beyond all controversy, the true nature and origin of these sounds.

The younger the fœtus, the more frequent is the pulsation of the heart. The frequency of the pulsations is always greater after any movements of the fœtus. This may be very easily ascertained, at any time, by merely pressing the end of the stethoscope rather firmly against the spot where the fœtal pulse is audible. A rise of 20 or 30 beats is then often almost immediately perceived.

The following tables will illustrate this fact, and exhibit, at the same time, some of the changes which the pulse undergoes immediately after the child is born, and when respiration has commenced.

No. 1.	*Pulse.*	*State of the Child.*
27th July	115—140	Quiet } In utero.
———	156 ——	After movement } In utero.
30th July	108—140	Quiet } In utero.
———	158 ——	After movement } In utero.
31st July	120—125	During the 2nd period of labour
———	112 ——	During the 3d period
———	108 ——	Immediately after birth
———	104 ——	12 hours after birth
———	126 ——	24 do. do.
———	146 ——	48 do. do.
No. 2		
21st Jan.	86—120	Quiet } In utero.
———	140 ——	Restless } In utero.
22d Jan.	110—120	Quiet } In utero.
———	136 ——	Restless } In utero.
———	108 ——	During the 2nd period of labour
———	108 ——	During the 3d period
———	100 ——	Immediately after birth
———	108 ——	12 hours after birth
———	110 ——	36 do. do.
———	140 ——	Fifth day do.
No. 3.		
1st Feb.	140 ——	Restless } In utero.
———	88—136	Quiet } In utero.
2d Feb.	90—136	Quiet } In utero.
———	140—150	During the 1st period of labour
———	130—138	During the 2d period
3d Feb.	108 ——	12 hours after birth
———	100 ——	24 do. do.
———	140 ——	36 do. do.
———	88 ——	42 do. do.

No. 4.	*Pulse.*	*State of the Child.*
22d Jan.	144—156	Restless }
———	108—112	Quiet }
23d Jan.	154—165	Restless } In utero.
———	110—120	Quiet }
24th Jan.	140 ——	Quiet }
———	160 ——	Restless }
———	104—148	During the 2nd & 3d periods of labour
———	146 ——	Immediately after birth
———	140 ——	12 hours after birth
———	154 ——	24 do. do.
———	140 ——	36 do. do.
———	108 ——	48 do. do.
———	140 ——	72 do. do.
———	170 ——	Fifth day do.

No. 5		
5th May	108—154	(Not stated) } In utero.
7th May	110—148	Quiet }
8th May	130—140	During delivery
———	130 ——	Immediately after birth
———	150 ——	24 hours after birth
———	154 ——	36 do. do. (restless)
———	170 ——	60 do. do. (after crying)
———	108 ——	72 do. do. (asleep)

No. 6.		
12th May	106—130	Quiet } In utero.
———	154 ——	Restless }
14th May	130—140	During labour
———	156 ——	Immediately after birth
19th May	108—140	Asleep—restless

Die Geburtshülfliche Exploration, von Dr. Hohl. Halle, 1833.

CASES OF A MILKY STATE OF THE BLOOD.

A man, 47 years of age, much addicted to excess in wine, was admitted into the Hospital at Cremona with the symptoms of pneumonia, attended with high feverish excitement. He was freely bled and purged. On examining the blood on the following day, it was found to be quite white—the clot as well as the serum, and it exhibited a milky smell. The urine, too, which was secreted in very small quantity, had a milky appearance; and the whole surface of the body, and more especially the face, exhibited an extreme pallor. The bleeding was repeated on the following two days, and the blood presented the same phenomena. On the 26th (the 5th day after his admission,) the symptoms, although still severe, were considerably abated; a fresh venesection was however ordered. The crassamentum of the blood presented a more normal appearance, but it was covered with a thick buffy coat: the serum was white and "n'offrait point les principes qui constituent le serum." On the following day, he was again bled; and the blood drawn was almost natural in appearance, the serum being yellowish, and the clot free from buffiness. After this date, the patient speedily recovered.

Chemical Analysis of the Blood.—Having decanted off the serum along

with the clot, a whitish turbid fluid, having many of the characters of milk, and exhaling the smell of butter, remained at the bottom of the vessel. A portion of the buffy coat, which was at least half an inch in thickness, and had a distinct greasy smell, having been immersed in boiling alcohol, furnished "une substance grasse" similar to what was obtained from the serum, to be immediately described. Mixed with the crassamentum were drops of an oily liquid, having "tous les caracteres extericurs de lait." The fluid obtained by pouring boiling alcohol on the serum, and filtering the mixture, yielded on evaporation a flocculent fatty matter, similar to the crystallizable matter of M. Lecanu, or to the seroline of M. Baudet. The albuminous matter of the serum remaining on the filter "etait fort onctueuse," and when digested with repeated quantities of boiling alcohol afforded a fatty oleaginous substance, of a yellowish colour, soluble in alcohol and æther, forming an emulsion with water, and when left exposed for some time, becoming acid and emitting a fatty smell. The albumen was obtained pure, by digesting it subsequently in æther. No traces of the proper sugar of milk could be detected.

From these results, it appears that this fatty substance in the blood was similar to what exists in chyle, and also in several respects to cerebral matter. 1000 parts of the serum consisted of 905 of water; 76 of albumen; 4 of crystallizable fatty matter; 6 of oleaginous matter; 5 of extractive, lactate of soda, chloruret of sodium, and chloruret of potassium; and 4 of other salts.—*Annali Universali.*

A case very similar in many respects to the preceding one occurred in our practice about a twelve-month ago. The patient, a woman, 33 years of age, and whose appearance strongly indicated a tuberculous constitution, was seized with pleurisy and pericarditis. She was bled for six days successively; and each quantity of blood was most remarkable for the very great thickness of the buffy coat (half and sometimes two thirds of an inch thick) and for the strikingly milky appearance of the serum. We had never seen these phenomena to so great an extent before. As to the cause of the milkiness of the serum, perhaps the opinion which attributes it to the presence of unchanged chyle in the blood is the most probable. The experiments of Christison, Babington and Lecanu agree with those of the Italian author, that, in this kind of blood, an unusual quantity of oily matter is discoverable in it. What are the states of the system in which the blood is apt to exhibit a milky appearance? Our experience prompts us to answer, the existence of active inflammation, especially of the respiratory organs. Whether there is necessarily any coexistent affection of the thoracic duct we are not prepared to say. Dr. Copland in his Medical Dictionary has stated "that the milky state of the serum is occasionally met with in various cases, functional as well as organic; and seems connected with deficient assimilating powers."

The following case is reported in the number of the French Lancet for April last. A man 48 years of age labouring under extreme dyspnœa, was admitted into the Hôtel Dieu: the skin was hot and dry, the movements of the heart rapid and tumultuous, and auscultation indicated that there was a great obstruction to the free ingress of air into the lungs. A vein in the arm was immediately opened; but "judge," says the reporter, "my surprise at seeing blood as white as milk, stream from the orifice."

Twenty ounces of this white blood were withdrawn. In the evening leeches were applied to the epigastrium, and the blood which flowed from the bites exhibited the same appearances as that obtained from the arm in the morning. (We are not supplied with the report of the rest of the case, and are informed only that in the course of a week the patient had recovered his health.)

The blood was analysed by M. Lecanu. Its appearance, says this distinguished chemist, was so peculiar, that I cannot describe it better than by comparing it to "une bavaroise (tea sweetened with capillaire) legerement rosée." On resting, it deposited traces of colouring matter, the fibrine of which seemed to

have disappeared; and above this deposit, there was found a white opaque fluid, like milk or a strong emulsion.

In a 1000 parts of the blood, there were 794 of water; 65 of albumen; 108 of fatty matter, acid soap (savon acide) and cholesterine; 17 of oleine, margarine and stearine; and 25 of salts and extractive matter.

The fibrine and especially the colouring matter of the blood had almost entirely disappeared, and the place of the globules was supplied with a corresponding quantity of fatty matters, of which the acid matter and the cholesterine belong to healthy blood, but not so the oleine, margarine and stearine. It is therefore to the presence in large quantities of these fatty matters, held in suspension in the serum, that we must attribute the peculiar appearance of the blood in this case.

On the Chemical Condition of the Saliva, as an Indication of the different Morbid Affections of the Stomach.

M. Donné is well known in Paris as one of the most zealous and intelligent young physicians there. For several years he was clinical clerk to M. Louis, as our readers may have learned from the foreign Periscope of our Number for July last; and subsequently he attached himself very enthusiastically to the service of M. Bouillaud in the wards of the great Hospital La Charité.

The pages of the Journal Hebdomadaire for the last three years attest his great activity as a diligent and enlightened observer of disease. For some time past he has been engaged in collecting materials for a work on the Chemical Properties of the Animal Fluids in health, and also during the progress of various morbid affections.

One branch of the subject appertains to the investigation of the changes which the saliva undergoes in disease, and more especially in that form of it, which has been of late years far too indiscriminately designed gastro-enteritis. Although a devoted disciple and admirer of M. Bouillaud, (who is generally considered as one of the most ardent and able followers of the physiological or Broussaian doctrines,) he candidly admits that a multitude of stomach affections, differing greatly in their characters, and requiring very different modes of treatment, have been most erroneously grouped together under this much abused epithet. Numerous are the cases, where patients have been tortured with the long continued but ineffectual use of antiphlogistics and refrigerants, and where a few doses of emetics and purgatives subsequently have dissipated all distress in the course of a day or two. The diagnostic symptoms between the genuine "gastro-enterite," and mere "embarras gastrique," hitherto pointed out by medical writers are indeed, it must be confessed, often unsatisfactory and even delusive; and it has been owing in a great measure to this very uncertainty that the exclusive doctrines first promulgated by Broussais have been carried to so extravagant a pitch by one party, and condemned so indiscriminately by another.

It is with the hope of dispelling part at least of this uncertainty that M. Donné has ingeniously proposed the chemical state of the saliva as a means to determine the real character of various stomachic diseases.

He premises his remarks by alluding to those excellent observations of M. Andral, wherein he states "that no relation can be established between the existence of nausea and vomiting, occurring during the progress of fevers, and any lesion of the stomach appreciable on dissection; for, on the one hand, these symptoms have been often absent, when the stomach has been found 'le plus rouge et le plus gravement affecté;' and on the other hand, when they have been present, often no morbid change of the viscus is discoverable after death. The mere existence therefore of these symptoms in fevers is no proof of even irritation, far less of decided inflammation, of the stomach.

Unless the vomiting be accompanied with epigastric pain, redness of the tongue and thirst, we have no good reason to predicate the existence of gastritis. What M. Andral says of the state of the stomach in continued fevers is equally applicable to many other

cases of less serious importance, where the physician is not a little perplexed to determine whether there exists a mere "embarras gastrique" (in the language of Stoll "saburres gastriques") or a decidedly irritative or inflammatory condition of the stomach. In alluding to the treatment he adds: "unfortunately there must always remain some uncertainty as to the actual morbid state of the stomach in those cases, where the symptoms have been relieved by the use of emetics and purgatives: and to add to the difficulty the symptoms which have been supposed to indicate the use of such remedies, are by no means uniform and constant." The object of M. Donné's Essay is to endeavour to remove some of the difficulties, which environ this interesting department of Semeiology, and to point out a method by which the physician may be enabled to ascertain the various "modifications morbides," in which the employment of emetics is or is not appropriate: and first with respect to the inflammatory irritation of the stomach he directs our attention to a symptom hitherto unnoticed by medical men, and derivable from the chemical state of the saliva. Before alluding to the pathological modifications of this fluid, it may be useful to glance at the opinions of different authors as to its chemical properties in a state of health.

M. Magendie regards the saliva as being sometimes acid, sometimes neutral, and sometimes strongly alcaline: when the stomach is empty it is usually acid; during mastication it is alcaline, the acidity disappearing sometimes dès la premiere bouchée d'alimens." (A tolerably fair specimen of the vagueness of this physiologist's assertions.)

According to M. M. Tiedemann and Gmelin, the saliva and the mucus of the œsophagus are alcaline in all cases, not only in man, but in every other animal, which they have examined.

M. Donné's experiments have led him to the same conclusion. He has found that the saliva is constantly alcaline before, as well as during, taking food, and also during digestion, provided the stomach is in a healthy condition. He assumes it therefore as a position beyond all doubt that the normal state of the saliva is decidedly alcaline. Any one may readily satisfy himself of its truth by merely moistening with the saliva a slip of litmus paper which has been reddened by a weak acid: the blue colour of the dye is quickly restored. The saline contents are chiefly lactate and muriate of soda, and muriate of ammonia.

It is quite true that the saliva will be found not unfrequently to be acid; but this change of chemical property is always coincident, according to our author's experience, with a morbid state of the stomach; and it is on this very change of character that M. Donné founds the diagnosis of several diseases of this organ. He repeats the assertion, that he has never met with a single instance of the saliva being acid, when the functions of the stomach were healthily performed; and he assures us that whenever it is so, he has always found it to be characteristic of irritation or of inflammation of the mucous coat.

Hitherto there have been only two methods by which the existence of such a morbid state in doubtful cases has been deducible; viz. either by attention to the effects of the remedies, antiphlogistics or tonics, refrigerants or irritants, sedatives or evacuants, which may have been administered; or secondly by post mortem examinations. If the axiom "naturam morborum ostendit curatio" be not always rigorously true, it must be admitted that its principle has guided and still guides many excellent physicians, and serves as a basis for most of the reasonings which we daily make in appreciating the value of different therapeutic means. We are willing to admit that it is an essentially empirical and often a misleading guide; but we are not to reject its assistance merely from the abuses which some have made of it. Medicine is in an especial degree a science of minute observation; and our observations to be practically useful are not to be confined to one set of phenomena to the exclusion of any other. Morbid anatomy acquaints us with one set; semeiology, or the study of symptoms teaches us another; and therapeia or the doctrine of the action of remedies furnishes us with a third.

The chemical examination of the se-

cretions during life belongs to the second of these great branches of medical science. Hitherto it has been far too much neglected; for, with the exception of urinary complaints, there is scarcely a class of diseases, in which its assistance has ever been invoked.

Without further details, we shall now narrate briefly a few cases which will illustrate the good effects of attending to the chemical properties of the saliva in disease.

It may be necessary to state, that the only testing means, which M. Donné recommends, is the use of slips of litmus paper, such as are generally employed in examining the urine. Some of them are to be reddened by immersion in a weak acid, to serve as tests of alcalinity.

The saliva of a man, labouring under intense bronchitis, was uniformly found to be acid. On dissection, the mucous membrane of the stomach was found "pointillée et ramollie" in some points, and red and highly injected in others.

A young woman, when admitted into La Charité Hospital, was labouring under a severe attack of bronchitis, attended with great tenderness of the abdomen, excessive irritability of the stomach, diarrhœa, ardent thirst, &c. The saliva was strongly *acid*.

The disease assumed in its progress a marked typhoid character, the tongue was parched and coated with a brown crust; the abdomen was always very tender; delirium and coma supervened, and the patient died on the 10th day after admission. The saliva was acid during the whole course of the illness.

Dissection. The mucous coat of the duodenum and jejunum was highly injected; the intestinal follicles were enlarged, and many of them ulcerated. The stomach exhibited "une injection pointillée" in its large extremity, and its mucous coat was soft and easily lacerable in several places: in other places it was very vascular, and of a dark colour.

A young man was received into the La Charité Hospital as a fever patient. All the symptoms of ataxic fever soon developed themselves. The saliva during the first days was only slightly acid; but later it became more strongly so. He died comatose. The saliva remained acid to the end.

Dissection. The mucous coat of the stomach was healthy in four-fifths of its extent; its large extremity, however, exhibited "une rougeur pointillée avec ramollissement pulpense de cette membrane."

In a patient who died of severe pneumonia, complicated with great irritability of the stomach and with diarrhœa, the saliva had been found to be unusually acid, so that it reddened the litmus paper "comme le ferait du vinaigre." Besides serious lesions of the thoracic viscera, the inner surface of the stomach presented in different places a state of high injection, of partial softening, and of complete disorganization of the mucous tissue.

The preceding cases are intended to illustrate the coincidence between a permanently acid state of the saliva and the existence of inflammatory irritation of the stomach, as ascertained by dissection. We shall now detail some cases, where the saliva was acid at first, but gradually lost its acidity and recovered its alcaline properties, as the patients were restored to health.

A young man was admitted into the hospital as a fever-patient. The symptoms were not serious: there was a yellow hue of the skin; the epigastrium was rather tender on pressure; there were however neither vomiting nor diarrhœa present; the tongue was white, and the saliva was alcaline. During the progress of the case the saliva became acid, continued to be so for three days, then became neutral, and as the patient recovered, gradually resumed its alcalinity.

A student of medicine, who had been but scantily fed for several months, was seized with shivering, pains in the loins, loss of appetite, &c. The epigastrium was tender on pressure; the tongue was covered with a thick white coating; the saliva was strongly acid. As the feverish symptoms subsided, the saliva became neutral, and during convalescence, it recovered its alcaline properties.

A young woman was attacked with the symptoms of gastro-enteritis. The saliva was decidedly acid. Antiphlogis-

tic remedies were used with happy effects and the saliva gradually shewed itself less and less acid, until it became neutral, and at length normally alcaline.

In the case of a young man, who exhibited the symptoms of gastritis, viz. great tenderness of the epigastrium, thirst, tongue red and parched, &c. the saliva was found to be decidedly acid. By repeated leechings of the abdomen, and the use of demulcent and refrigerant drinks, the symptoms were speedily relieved, and in a few days the saliva was quite neutral, having no effect either on the simple litmus paper, or on that which had been previously reddened by an acid. It soon regained its alcalinity.

This patient had two relapses of the complaint; and on both occasions the saliva was acid at first, and became neutral and then alcaline, as the symptoms disappeared.

From the preceding data, M. Donné deduces the important (if verified by future enquiries) conclusion, that in all cases of gastric disturbance, when the saliva is distinctly acid, we have reason to believe that an inflammatory irritation of the stomach is present, and therefore that an antiphlogistic treatment is required.

With respect to the converse of the proposition, he candidly admits that his facts are not yet sufficiently numerous and definite to warrant him in laying down any therapeutic indication; and he only *suggests* that, whenever the saliva remains alcaline in gastric complaints, the most appropriate remedial means will be found to be emetics and purgatives. He promises to continue his own researches, and invites others to follow the same path of inquiry.—*Archives Générales.*

SMALL-POX AT NAPLES.—DR. GREGORY AND OTHERS ON THE LATE EPIDEMIC IN LONDON.—RECIPROCAL EFFECTS OF VARIOLA AND VACCINA.

From the beginning of May to the middle of October, 1834, the small-pox was very prevalent in Naples. The epidemic was more severe than had been witnessed for the preceding thirty years. The number of patients affected with it was upwards of 7000, and of these 1450 died. It appears that the prejudices and culpable negligence of the lower orders, in regard to vaccination, are quite as common at Naples as elsewhere: for we find that out of 15,000 children born there annually, 6000 at least are never vaccinated.

The greatest mortality occurred in the districts Mercato, Pendino, and Porto; and more especially at Aversa and Afragola, where one case in every three proved fatal. Persons of all ages, who had been effectually vaccinated, seldom or never caught the infection. Many of them, indeed, were seized with varicella; some with febrile pemphigus, and others with miliaria, uticaria, or other eruptive diseases, but not one exhibited the genuine variolous exanthema.

Several cases of the variolous and the vaccine eruption being coexistent were observed. If the vaccine pustule was established before the development of the variolous disease, and if it proceeded regularly through its various stages, the variola was always observed to be considerably modified, and invariably favorable in its event. But if, on the other hand, the variolous eruption was copious and fully formed, the vaccine pustule became smaller, and, as it were, withered, and it speedily dried off. The conclusion, therefore, seems to be, that which ever disease affects the system primarily, and antecedently to the other, prevents the full development of the latter. In the late epidemic at Naples, the eruption was very generally confluent. The attendant pyrexia usually assumed the form of a continued gastric fever; sometimes it was truly inflammatory, and at other times, but more rarely, it was nervous or putrid. The greater number of the cases occurred in young children. Both sexes were almost equally affected; but the greatest mortality was among the female patients.

One example of a second attack of the disease was observed at Aversa. A young man, who had suffered from variola during his infancy, and who still

retained the marks of it, was seized; but he soon recovered.

M. Ronchi, the author of these observations, and president of the Central Board of Vaccination at Naples, repeats the assertion, that in the numerous cases which fell under his notice, not one well-marked instance occurred in a patient, who had been duly vaccinated, and who bore the genuine marks of the operation on his arm. But it appears that he witnessed numerous examples of confluent and very severe consecutive varicella, which other authors would doubtless have considered as secondary or modified variola. It is therefore rather an apparent than an actual difference of opinion, as to the immunity of vaccinated persons from an attack of small-pox; because what some would regard as mere varicella, others would consider to be variola in a modified form. The species of varicella, which Signor R. describes as having been most prevalent, was the v. globulosa of Bateman, the v. pustuleuse globulaire of Alibert. He confesses that the diagnosis between this form of varicella and the modified variola, was sometimes very difficult; but that almost always the peculiar shape of the pustules, the absence of the central depression, the larger quantity of their contents, and the more rapid succession of their phases, were sufficient to announce the varicellar character. The treatment generally adopted was very simple. When the eruption was distinct, and the pyrexial symptoms were not very severe, the use of cooling subacid drinks, and of mild farinaceous food, the proper ventilation of the sick-rooms, and the occasional administration of gentle aperient lavements, were all that was necessary. The truth of Ramazzini's remark, "facilius evaserunt ei, quibus nec detractus fuerit sanguis, nec ullum administratum remedium, toto curationis negotio naturæ commissio," was amply confirmed by Signor R.'s experience in the late epidemic. When the feverish symptoms ran high, especially in young and plethoric subjects, and when the head suffered from congestion, a bleeding from the arm was usually practised. Except in those cases, and they were rare, bleeding was seldom resorted to, and never with any but hurtful effects.—Mild expectorants, such as the spiritus Mindereri and vinum ipecacuanhæ were useful. Purgatives were seldom employed before the stage of the desiccation of the pustules. When used earlier, they often interrupted the course of the eruption, and excited disagreeable nervous or gastric symptoms.—*Filiatre Sebezio di Napoli.*

The tendency which the small-pox has shewn of late years to re-assume its formidable ascendency among epidemic disorders, and the irregularity not only of the protective influence, but also of the common phenomena, of the cow-pox, have excited the attention of medical men, in almost every country in Europe. Many districts of France have recently been visited by small-pox, and have suffered severely from it. The Prussian Government has been alarmed by its wide-spreading among their army; and several of the Italian states have appointed commissions to examine the histories of some late epidemics among them. Our own country, it is well known, has not escaped the ravages of an enemy, which, it was too fondly supposed, had been almost extirpated. "The snake was scotched, not killed." During 1834, the small-pox was unusually prevalent in London, and its suburbs. Dr. Gregory, physician of the Small-Pox Hospital, whose opportunities of observation are so much more extensive than any private practitioner can enjoy, has done well to communicate the results of his inquiries to the profession. In a paper which he lately read at the College of Physicians, and which was published in the Medical Gazette, there are several interesting facts, which we shall now briefly enumerate. It appears from the report of the National Vaccine Establishment, and from the statements of Dr. G., that the variola of 1834 was not only less prevalent, but was also much more mild and favorable than it had been for many years preceding. The average rate of mortality had been previously about 30 per cent. In 1834 it fell from 30 to 14. "The small-pox of last year (1834,)" says Dr. G. "may therefore be looked upon as the mild-

est ever known in this part of the world."

Towards the close of the year, the disease began to manifest greater severity, and speedily reached its average fatality, and up to the middle of summer, it had not very sensibly abated in malignancy. According to the researches of Dr. Gregory, it appears, that from the year 1826, to the current one, (1835,) the proportion of the small-pox cases occurring after vaccination to the entire number of persons affected, has been, on the whole, very steady and uniform; the ratio varying only from 32 to 38 per cent. The frequency, therefore, of the modified or varioloid disease, seems to be nearly correlative with the frequency, but not with the malignancy, of the small-pox itself. In 1828, when the rate of the mortality was so high as 33 per cent., the proportion of the unvaccinated cases, 73, to the whole number, 202, admitted into the Small-Pox Hospital, was 36 per cent.; whereas, in 1834, when the rate of the mortality was only 14 per cent., the proportion of the unvaccinated cases, 63, to the whole number, 165, admitted, was as high as 38 per cent. The severity of the one epidemic and the mildness of the other appear to have had no connexion with, or dependence upon, the comparative rarity or frequency of the modified disease.

From the steadiness which the average number of the unvaccinated cases has annually borne to the aggregate of the admissions into the hospital, during a period of nearly ten years, Dr. Gregory is inclined to believe "*that we have now reached the maximum of vaccine imperfection;*" and "that we already know the full extent of the evil."

From Dr. G.'s calculations, we may infer that in the year 1834, 2386 persons laboured under small-pox in London; and that of these, 906 had been previously vaccinated. The proportion of the vaccinated to the unvaccinated may, as we have already mentioned, be estimated at 34 or 35 per cent. This is indeed a much larger proportion than was ever anticipated in the days of Jenner; but it is worthy of notice, that the average mortality by small-pox in London has been nevertheless reduced three-fourths since the introduction of vaccination.

Dr. G. has endeavoured to ascertain the cause of the deterioration of the vaccine operation as a protecting means against the assault of the small-pox. He adverts to the possibility of the lymph having become in some degree *humanized*, or altered in its qualities, from having passed through so many human bodies since it was first derived from the cow. It appears that the lymph now in use in London, and throughout this country, was originally procured from Mr. Harrison's dairy in Gray's-Inn Lane in 1799, and that it has not been renewed since that period.

"The appearances on the arm," says Dr. G. "certainly favour the idea that no deterioration, or material alteration, in the qualities of vaccine lymph, has taken place since the commencement of this century;* but I have always felt, that to put this important point beyond the reach of doubt, it would be very desirable to have recourse occasionally to that experiment on which alone public confidence in vaccination was originally founded;—I mean variolous inoculation. The numerous experiments performed by the early vaccinators sufficiently prove that, when variolous inoculation is practised within a few weeks or months after vaccination, no effect, either local or constitutional, is produced; or, at farthest, a pimple only forms at the place of puncture, and this subsides in the course of two or three days, without having undergone any regular suppuration."—From some experiments made by Dr. Gregory in 1831, and repeated during the present year, for the purpose of ascertaining the effects of variolous inoculation at more remote periods from the date of the preceding vaccination, "it would appear that, when the interval from the date of vaccination exceeds twelve months, the vaccine lymph now in use does not prevent the usual *local*

* In our experience for the last four or five years, the development of the vaccine vesicle has been often very irregular; generally more tardy by two, three, or four days, than it used to be. —*Rev.*

effects of the variolous virus, but that it arrests the process of inoculation at that point when febrile commotion and constitutional eruption are wont to appear." The facts which have led him to this conclusion are the following. A child, four years of age, and who had been vaccinated when six months old, was inoculated with fresh variolous virus, by Dr. G. "On the sixth day the arm presented the appearance of a regularly formed vesicle on an indurated base, and surrounded by an areola. No febrile disturbance or eruption however succeeded. In a few days the vesicle desiccated."

A young girl, ten years of age, was vaccinated in 1821, and in 1831 the variolous inoculation was performed by Dr. G. On the eighth day after the insertion of the virus there were pustules formed at the puncture, but neither febrile disturbance, nor any constitutional eruption succeeded.

The third case is especially worthy of notice.

Mary Ann Ward, aged two years and four months, vaccinated a year and a half previously, and who had been exposed, but with impunity, to the contagion of a very virulent small-pox, which proved fatal to the patient, and which had infected her younger brother, was inoculated with variolous matter on March 8th. "On the 11th the arm presented the most perfect appearances of a successful inoculation. On the 15th a perfect vesicle with depressed centre had formed, upon an indurated basis, with considerable surrounding inflammation, of irregular shape. No febrile commotion, however, nor any constitutional eruption occurred."

The history of the disease in this girl's brother is remarkable, as it shews that vaccination may advance and run its perfect course, while the system is incubating, and preparing to throw out perfect small-pox; and that under these circumstances, the lymph of the one vesicle will communicate genuine vaccinia, and the lympth of the other genuine variola. The parents of the children were living on the same floor with a man who had died of the small-pox on the 23d February; and both children had been frequently in the sick-room, both before and after the nature of the patients complaint was known.

On the day after his death, the youngest child, which was only four months old, was vaccinated. Nine incisions were made, every one of which took effect, and several children were successfully vaccinated with the lymph taken from the patient on the 3d of March. On the evening of this day, the infant sickened, and on the 5th a copious eruption of genuine variolous vesicles shewed itself over the whole body. At this time the vaccine vesicles on the arm were large and full, and surrounded by a fine and perfect circular areola. The small-pox advanced, and ran its course altogether unmodified. On the 17th, the small-pox pustules were drying over the whole body; the vaccine scabs on the arm also were drying, but were still adherent. It was with matter taken from this infant, on the fourth day of the variolous eruption, that the eldest child, his sister, whose case we have just narrated, was inoculated.

In some of the recent numbers of Rust's Magazine there are several valuable communications respecting the epidemics of variola, which have lately prevailed in different parts of Germany. The most important of these is from the pen of Dr. Ebers, physician to the General Hospital at Breslaw. The conclusions, which he has drawn from a very extensive experience, are highly satisfactory as to the protecting influence of vaccination. Indeed all the German physicians appear to be unanimous on this subject, that genuine variola is exceedingly rare in a person who has been duly vaccinated, and that a very large majority of the cases which have been reported as such, either have been examples of varicella rather than of variola, or, if they have been examples of the latter, that they have occurred in persons on whom vaccination had been imperfectly and improperly performed.

From December, 1831, to the middle of 1833, ninety cases of genuine variola were treated by Dr. E. Of this number, three only are recorded as having occurred in persons previously vaccinated; nine in persons, whose vacci-

nation was very doubtful, and seventy-eight in unvaccinated persons.

As to the three cases first-mentioned, it is proper to observe that in two of them the patients exhibited no characteristic cicatrices on the arms: these, therefore, can scarcely be admitted as unobjectionable examples of the failure of the cow-pox protection. In all the cases enumerated as "doubtful," it could not be satisfactorily ascertained whether the patients had been vaccinated at all or not, in consequence sometimes of the want of authentic information as the operation having ever been performed, and at others, from the utter absence of all cicatrices on the arms.

Of the ninety cases, forty-eight proved fatal; one among the vaccinated, five among the doubtfully vaccinated, and forty-two among the unvaccinated individuals. The mortality was therefore very high, exceeding the proportion of one-half of the whole number. This was in a great measure attributable to the disease having very generally been neglected for several days before medical aid was summoned.

Of the varioloid or modified form of the disease, (whose distinctive characters are the great mildness of the eruptive fever, the irregularity of development and want of uniformity in the appearance of the eruption, the great rapidity of the pustular changes, the absence of the peculiar variolous smell from the surface, and also of the secondary fever, and the less depth and size of the cicatrices left behind,) there were 146 cases, of which 137 occurred in vaccinated persons, and nine in patients whose previous vaccination was doubtful. Only two of the entire number of these cases proved fatal; and in both of them it was "doubtful" whether the patients had been ever vaccinated.

Of varicella, 210 cases were seen by Dr. E. In all, the patients recovered. In two only was the vaccination of the patients doubtful; and in all the rest, it was distinctly and unequivocally proved. Surely no results can proclaim more satisfactorily the paramount utility of vaccination. Out of 146 cases of the different forms of "pocky disease," three only proved fatal to persons who had been previously vaccinated.

Dr. E. alludes to the frequent complaints which have been made within late years of the inefficiency of vaccination, as a means of protection against the attacks of small-pox, and he approves of having recourse to virus obtained directly from the cow. Nevertheless he is convinced from the results of his own experience, that the greater number of failures are attributable rather to the faulty and imperfect manner in which too often the operation has been performed, or to the negligence of the parents of the children not taking them to the surgeon afterwards, in order that the true nature of the pock might be ascertained, than to any well-established deterioration of the vaccine lymph which is at present in use.

He mentions that he has not seen nor heard of a single case of small-pox occurring in any individual who had been vaccinated at the Breslaw Royal Vaccine Institution.

The excellency of the virus used, and the extreme attention with which the operation has been invariably performed there, can be the only reasons for such immunity. Some years ago, vaccination used to be performed in different parts of Germany not unfrequently by clergymen and midwives. Surely, then, it cannot be wondered at, that so many apparently unsuccessful cases have occurred during the late epidemics of variola. "According to my experience," says Dr. E. "the proportion of those cases, wherein *genuine* variola attacks persons who have been properly vaccinated, is nearly the same as that which was announced to be the case by the early English vaccinators at the close of last century, being about 1 to 500; while the proportion of the cases, in which a second attack of small-pox has taken place is about 1 in 800."

Whenever there is any doubt as to the genuineness of the pock induced by vaccination, the surgeon should invariably repeat the operation.

In the last annual report of the Berlin Infirmary, published by Dr. Kuhk, we find that ninety-six cases of "pocky disease" were admitted during

the course of the preceding year. Eleven of these proved fatal. Twenty-four were examples of genuine variola; 21 of modified variola; and 51 of varicella. Fifteen of the cases of the genuine variola occurred in persons who had never been vaccinated, and nine in vaccinated persons. Among the former number, was one of a second attack of the disease. The eleven fatal cases occurred in persons who had not been vaccinated. The varioloid and varicellar cases were generally very mild, many of them not requiring any medical treatment.

The period of the variolar disease, which was most dangerous, was at the accession of the secondary fever, which was apt to assume a malignant typhoid type.

Mr. Lawrance, Surgeon to the Royal Military Asylum at Chelsea, has communicated the results of the observations made there during the last thirty years, respecting small-pox, and the protection afforded against it by vaccination. The total number of children, who had been admitted into the hospital, up to the middle of 1835, is 6251; out of which number, 2532 had had small-pox previous to their admission; 3080 had been previously vaccinated; 630 were vaccinated at the Asylum; and nine had neither been vaccinated, nor had ever had small-pox. There had been 62 cases in all of small-pox, observed in the asylum: of these, 26 were after reputed small-pox, 24 after reputed vaccication, three after vaccination performed at the asylum, and nine in patients who had not undergone either vaccination or small-pox.

The total number of deaths was *five;* three occurring in patients who were reported to have had small-pox previously; and the other two, in patients who had never been vaccinated, nor had small-pox before. "No fatal case of small-pox after vaccination has ever occurred in this institution, although there have been 27 cases of the disease among those previously vaccinated."

With respect to re-vaccination, Mr. L. observes that "in no instance in his practice has a genuine vaccine vesicle been produced a second time—merely more, or less inflammation, and sometimes a small pustule, similar to what a thorn introduced into the arm might have caused."

Mr. Field, surgeon to Christ's Hospital, in a paper, which was read before the College of Physicians, has adduced the following very interesting results of his experience at the hospital, during the last two years. "The total number of children admitted into the school from 1825 to 1834, has been 1877; and it is to be observed that very few children are received, who, from not having undergone vaccination, are susceptible of natural small-pox. The total number of children, who have during that period had the small-pox after vaccination has been 89. The number affected has varied much in different years, as the following table will shew.

1825	-	-	-	33
1826	-	-	-	4
1827	-	-	-	12
1828	-	-	-	3
1829	-	-	-	7
1830	-	-	-	4
1831	-	-	-	8
1832	-	-	-	2
1833	-	-	-	15
1834	-	-	-	1
				89

One only of these 89 cases proved fatal. The boy was just recovering from a very severe attack of measles, at the time when he was seized with small-pox. It thus appears that out of 1877 children admitted into the hospital during the last ten years, only one has died of small-pox; that disease, which was formerly such a terrific and devastating scourge.

Mr. Taylor, surgeon at Cricklade, informs us that some time ago he vaccinated several persons with lymph derived directly from the cow, with the view of comparing the vesicles thus induced, with those which follow the insertion of the lymph obtained in the ordinary way from the arm of another patient. He states: "The characters of the two sets of vesicles was perfectly alike;" and again "there is no difference observable in the vesicle produced immediately from the cow, and the one produced from lymph obtained from the Vaccine Institution."

Mr. Taylor, as well as some other

correspondents of the Gazette, have communicated several cases, to prove the advantage of immediately vaccinating persons, who have been or still are exposed to the contagion of small-pox, and who may already have been infected with the miasm, although no eruption has yet appeared. The vaccine vesicles under such circumstances will generally be fully developed, and the variolous pustules which may subsequently appear, will be scanty in number, and also greatly modified in character.

None of the cases appear to have proved so severe as that of Mr. Ward's child, related by Dr. Gregory, with the exception perhaps of one mentioned by Mr. Taylor, who states in his report: "vaccination went through all its stages perfectly; small-pox, however, made its appearance, and she had a very full burden." Only one fatal case of small-pox after vaccination occurred at Cricklade, although the number so affected had been very great.

In a large majority of cases the disease was exceedingly mild, scarcely requiring any medical treatment. Mr. T. mentions that in consequence of the fatal case, he re-vaccinated a number of families, of which some members, from taking the vaccine disease in its most perfect form, may be considered to have been unprotected and susceptible of variolous infection; while others, and these formed by far the largest proportion of the whole, resisted altogether the effects of the operation. Four ladies in one family alone were found to be unprotected.*

Many parents, who had had all the members of their families regularly vaccinated, having been alarmed by the fatal case, were anxious that their children should be now inoculated with variolous matter. Mr. T. did this in numerous instances; and in all of them a regular small-pox pustle formed at the punctured parts, but without being followed by any constitutional disturbance or general eruption. Mr. T. strongly recommends that vaccination be repeated after a lapse of several years, say from seven to ten.

By an official announcement of the Prussian Government of July last, we learn, that during the year 1834, 44,454 soldiers were re-vaccinated. Of this number, 33,634 exhibited distinct cicatrices of the previous vaccination; 7134 exhibited indistinct, or imperfectly marked cicatrices; and in 3686, no cicatrices were visible.

The progress of the vesicles was regular and complete in 16,679; irregular in 12,287; and in 15,488, the vesicles, or rather the papulæ were quite abortive.

The operation was repeated a second time in 4530 cases; but with effect only in 866 of these.

During the year 1834, there were in all 619 cases of pocky disease, "blattern" (including varicellar, varioloid and variolous eruptions) among the entire body of the Prussian army.

Of these, there were 38 fatal cases of genuine variola: two only of this number occurred in persons who had been re-vaccinated with effect; six in persons who had been re-vaccinated, but in whom the operation failed, and the vesicles were abortive; and the other thirty cases occurred in young recruits, who had not been re-vaccinated at all. The director of the medical department concludes, that he is warranted by these data, to urge on the military surgeons of the Prussian army the propriety of re-vaccinating, even a second or third time, every soldier who may be under their charge, and in whom the operation has not yet been repeated.—*Magazin fur die gesammte heilkunde.*

* Our readers are probably aware that it is very generally believed by medical men, that the ascertained susceptibility of a person to be affected with one of the diseases, variola and vaccinia, implies and indicates the susceptibility to be affected with the other; and *vice versâ*. When, therefore, re-vaccination succeeds, or in other words, when it induces a well-formed vesicle on a person, who had previously been vaccinated at an early period of life, it is presumed that that person was equally liable to be effected with small-pox, if exposed to its miasm. The two viruses appear to be mutually opposed to, and destructive of, each other.

Diseases of the Uterus, benefited by the Use of Hydriodate of Potass—Dr. Clendinning's Observations on this Medicine.

A lady, 46 years of age, married, and mother of one child, had enjoyed good health until within the last three years, at which period the catamenia, which had hitherto been most regular, became suddenly suppressed. The cause of this suppression was a severe mental affliction at the loss of her son, who was drowned in his twentieth year. Her general health became much deranged; she was distressed with dull wandering pains in the region of the kidneys, and in the hypogastrium; her strength was reduced by several attacks of violent menorrhagia—and, during the intervals between these attacks, there was a constant yellow-coloured discharge from the vagina, and considerable pain was experienced during coition.

On examination, the cervix uteri was found to be tender on pressure, and to be considerably indurated. As this patient had, three years before, been afflicted with a syphilitic affection, a gentle course of mercury was recommended. All the symptoms were aggravated by this treatment, and the discharge now assumed quite a sanious character. When Dr. Clarion was first called in to the assistance of this patient, he found her considerably emaciated, and exhibiting the aspect of one labouring under some organic disease. The flesh was loose and flabby; the hue of the surface was of a dull yellow; the features were anxious and wrinkled; the eyes surrounded with a blueish circle; the tongue pale, and, as it were, sodden; the appetite irregular, and often quite deficient, and the bowels constipated. The patient complained of flying uneasiness in the left thigh, and of sharp, darting pains within the vagina. The neck of the uterus being examined by means of a speculum, it was found to be swollen, hard, and irregular, but not very tender when touched; a bloody discharge, of most offensive smell, oozed from the cervix all round. "D'après toutes ces circonstances, on ne pouvait meconnaitre un squirrhe uterin. L'age de la malade, l'ancienneté de son affection, les symptomes graves et caracteristiques qu'elle presentait, me laissaient aucun espoir de guerison, et me determinerent à porter un prognostic facheux."

The treatment consisted in the occasional application of leeches and poultices to the hypogastrium, and in the internal use of demulcents, and of a mild diet. A tepid bath was ordered to be taken every second day, and all exercise to be most cautiously avoided. The leeches were sometimes applied directly on the cervix uteri, by means of the speculum.

The symptoms of irritation having become considerably abated, Dr. C. commenced the use of the ioduretted hydriodate of potash, in the dose of ten drops twice a-day. The dose was gradually increased to fifteen and twenty drops three times a-day, the other parts of the treatment being steadily persevered in as before. The offensiveness of the vaginal discharge was obviated by the chloride of lime wash, and counter-irritation by means of the tartar-emetic ointment, was employed on the hypogastrium and upper parts of the thighs. This treatment was continued for the space of nine months, during which period, leeches were applied directly to the cervix uteri five times, and a bath "prolongé de plusieurs heures," was used every second or third day. The result was most unexpectedly gratifying—the uterus was reduced to its normal size, and its cervix lost the hardness and irregularity which it formerly had. For the last three years, this lady has enjoyed excellent health. The catamenia have not been seen; "mais les approches de son mari ne determinent plus aucune douleur."—*Journal des Connaissances Médicales.*

Remarks. The preceding case is one of practical importance, and may serve to suggest several useful hints in the management of some uterine diseases.

M. Clarion deserves much more credit for the judicious treatment of his patient, than for the diagnosis, and consequent prognosis, which he pronounced at first. The case was most

assuredly not one of genuine scirrhus —that disease, we mean, which is characterized by having a tendency to pass into the state of cancerous ulceration. We cannot, therefore, agree with M. C. either in the gloomy prediction which he made—"qu'elle ne laissait aucun espoir de guerison;" or in the reflection which he deduced from the fortunate issue of the case—"qu'elle prouve qu'avec de la perseverance, on peut se rendre maitre du squirrhe de l'uterus deja ancien, sans avoir recours, ni à la cauterization qui si souvent echoue, ni à l'extirpation, qui joint aux inconveniens moraux de toute espèce des operations sanglantes l'inconvenient non moins grand d'offrir peu de sureté." We do not mean to affirm that the disease, in this patient, might not have assumed some of the characters of malignancy, had it been neglected or maltreated—we think that it probably might; but that this most unfavourable event had taken place when Dr. C. was first called in, appears to us more than questionable. Uterine disease is, it is well known, of very frequent occurrence, at that period of life when the catamenial discharge is about to cease; and, from the obscurity of the symptoms which so often attends its commencement and progress—from the distressing effects which it induces, alike on the corporeal and on the mental system of the sufferer, and from the extreme danger of some cases, we cannot too strongly impress on the attention of our readers, the exceeding importance of their making themselves acquainted with every point of its history. Accuracy of diagnosis may almost always be attained by a skilful examination per vaginam, and success in the treatment may very often be assured, by following the principles which directed Dr. C.'s practice in the preceding case. Absolute rest in the horizontal posture, the regular repetition of local bleedings, by means of leeches to the groins, over the exit of the round ligament (we do not approve of applying them directly to the cervix uteri)—the employment of warm soothing fomentations and poultices—the regulation of the bowels by mild aperients, especially the oleum ricini—the increasing of the urinary discharge by cooling diuretics, such as nitre, and the spiritus ætheris nitrici, the occasional use of an anodyne at bed-time, and a mild, unirritating diet, will be found to suffice for the cure of very numerous cases.

In such as are more advanced and obstinate, it is useful to try the effects of local irritation on the hypogastrium, or upper parts of the thighs, by means of vesications or epispastics. The tartar-emetic ointment, used of such strength as to produce decided ulceration of the skin, is certainly preferable to ordinary blisters. We have found the application of the strongest aromatic vinegar, to which some extractum belladonnæ has been added, a very useful and easily-manageable substitute in some cases.

Conjoined with the use of these external means, the hydriodate of potass, and some of the other preparations of iodine, have been often unquestionably beneficial. In our practice, we have usually given it along with the decoction, or the syrup of sarsaparilla; and the agreeable results, which we have repeatedly witnessed from this treatment, warrant us in recommending it earnestly to our medical brethren. The modus operandi of this very active drug is certainly not well understood, but that it exerts some peculiar effect on the capillary and absorbent vessels, cannot be disputed. Its effects are decidedly often analogous with those of mercury in many cases of disease—witness its efficacy in the secondary symptoms of syphilis, in dropsies, enlargements of the viscera, &c. and to these may be added chronic inflammation of some textures, such as of the periosteum, articular apparatus, the skin, serous membranes, &c. Dr. Clendinning, the intelligent physician of the St. Marylebone Infirmary (following the suggestions of Dr. Williams, of St. Thomas's Hospital, who read a paper last Summer on this subject, before the College of Physicians), has recently communicated the results of his experience with the hydriodate in periostitis, and other chronic inflammatory affections of the hard membranous tissues. From his papers

in the Medical Gazette, we shall make a few extracts.

The first case was that of a young woman, who "constantly complained of dull pain, usually either in the back or front of the head; it was of *some years' standing*, and sometimes alternated for a time with a pain in the left hypochondrium, with which it also sometimes coincided. This pain I treated at different times by cupping, blistering, setons, purgatives, and by steel, bitters, aromatics, ammonia, and other stimulants, and by anodynes and narcotics of various kinds—also by mercury to ptyalism;" but all to no effect. This patient was then placed under the care of Dr. Elliotson, who, "after having failed with many other remedies, succeeded in relieving her by large doses of the hydriodate of potass. Dr. E. attributed the headache to a periostitic affection of the left temporal bone, and the cure, to the remedial power of iodine in periostitis."

Several cases of nodes on the tibia, and other bones, are adduced by Dr. C. to prove the very salutary effects of the hydriodate in dissipating such chronic inflammations. One of these is so interesting, that we shall transcribe it in an abridged form. A middle-aged gentleman was suddenly seized with headache, vertigo, double vision, and other signs of cerebral disturbance. These symptoms, although new to the patient, were believed to be owing to sympathetic cerebral irritation, arising from periostitis of long standing on the vertex and right side, in front of the ear, causing tenderness of the scalp over the whole of the right half, or rather more, of the head. He had for several years been subject to periostitis of various bones, viz. of the sternum, clavicle, acromion, and cranium. Antiphlogistic remedies had at first yielded considerable relief; but of late they had ceased to be of much use. The hydriodate of potass was now exhibited in small doses, to be cautiously augmented. The dose was rapidly raised to ten, fifteen, twenty, and at one time for a few days, to thirty grains thrice a-day. After about a fortnight's use of the remedy, he was free from headache, visual defects, and every other important inconvenience.

Dr. Clendinning having found that the hydriodate was so remarkably beneficial in cases of periostitis, as had been first distinctly proved by Dr. Williams of St. Thomas's Hospital, he was led to extend its use to a disease which is somewhat analogous to it, viz. chronic articular rheumatism. The results of his trials have been very gratifying, as appear from the following reports.

J. D. æt. 30, married, but never affected with venereal disease, has been subject to rheumatism for fifteen years, and, for the last eighteen months, has been unable to work, or to walk without a stick. He has been in St. George's Hospital, and has taken much medicine without advantage. The only part painful at his admission was the right knee, which for twelve months has caused him so much distress, that he has latterly used opium at night, to the extent of fifteen grains at a dose, to mitigate his severe sufferings. The hydriodate, in doses of four grains thrice daily, was now substituted for his former medicines. In 48 hours, a decided improvement was perceptible; he slept for several hours the second night of the iodic treatment, without taking any opium. In ten days, the pain of the knee was entirely removed; he, however, continued the use of the medicine for a few days longer, and then left it off gradually. The details of the other cases reported by Dr. C. are equally satisfactory, and appear to us fully to bear him out in the assertion, that the hydriodate is a most powerful remedy "in certain forms of inflammation."

Dr. Williams has unquestionably the merit of having first shewn, that the hydriodate is, in its operation, an antiphlogistic, or corrigent of that state of the bloodvessels on which chronic inflammation depends, as well as a discutient, or stimulant of the extreme absorbents. (May not the same remark be truly applied to the modus operandi of that most universal of all remedies, mercury?) Several French authors has, indeed, previously recommended it strongly in some of the secondary forms of syphilitic disease; but they

had used it, rather on empirical than on any *rational* therapeutic grounds. If subsequent experience confirms the recommendations of Drs. Williams and Clendinning, they will have deserved well of practical medicine.

Dr. C. points out some of the advantages of the hydriodate, as an antiphlogistic medicine, over other remedies of the same class. Its use, says he, involves no restrictions of diet or regimen; it occasions no susceptibility of catching cold, like warm-baths, diaphoretics, and mercury; it does not necessarily debilitate; and it is compatible, chemically and medicinally, with almost every sort of substance it may be desirable to combine it with, as with bitters, astringents, opiates, antacids, aperients, and diffusible stimulants; and Dr. A. Thomson and others have proved its medicinal compatibility with chalybeates and mercurials. The inconveniences occasionally attending its use, are either heart-burn, flatulence, nausea, and diarrhœa; or pains in the head and chest. In one case treated by Dr. C. the patient, a young woman, took about 100 grains a day, for several weeks together, without suffering any inconvenience. In a few instances it has induced severe ptyalism, and affected the gums, teeth, and breath, in the same manner as mercury is so apt to do. In this property, says Dr. C., iodine seems to agree with digitalis and some other active substances, which on rare occasions have been known to produce like effects.

It is by studying the physiological effects of iodine and of its different preparations, and by tracing their analogies with the effects of other medicines, that we may hope to improve our knowledge of its modus operandi, and of extending its employment as a therapeutic agent.*

From the facts which we have brought together, it will be acknowledged that iodine is possessed of antiphlogistic, or, to use the language of the Italian school, of contra-stimulant properties. Whether it is applicable to cases of active inflammation has not yet, as far as we know, been ascertained; but we should be inclined to predict that it will be useful chiefly in chronic diseases, in which the inflammation is of a subacute and lingering character, and is accompanied either with deposition of solid water, or with effusion of fluid. Its powerfully diuretic properties are well known. A very interesting case of old, obstinate, and confirmed dropsy, which had resisted a variety of treatments, and which ultimately was cured by means of the hydriodate in large doses, was lately communicated by Dr. Bain of Poplar, to the Lancet.

Professor Bouillaud recommends the hydriodate in chronic diseases of the heart.—*Rev.*

M. VELPEAU ON THE DISEASES OF THE LYMPHATIC SYSTEM—STATE OF THE LYMPHATICS IN PUERPERAL FEVER.

Within the last fifty years, no department of pathology has been more satisfactorily studied than that which treats of the diseases of the vascular system. This system, it is well known, includes the two great sections of the sanguiferous and of the lymphatic or absorbent vessels.

The first of these sections is subdivided, according as the vessels are arterial, and excentric, *i. e.* diverging from one central point; or as they are venous and concentric, *i. e.* converging from the extremities to a common centre. The structure or tissue of these two sets of vessels is very widely different; and this difference in structure leads us therefore à priori to anticipate a considerable difference in their pathological changes. Experience justifies the

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* Our readers will find a few remarks on the analogies which may be traced in the therapeutic effects of mercury, iodine, and arsenic, in the treatment of cutaneous diseases, in the review of Rayer's treatise in our last number. It seems to us, that they all act on one principle, that of stimulating the extreme vessels.

correctness of this conjecture. The veins, we find, are much more frequently diseased than the arteries, in consequence partly of the greater vascularity of their walls, and partly also of their contents being more often deranged and abnormal (denaturé) than those of the arteries. It is to be remembered that the fluid which permeates the veins has already undergone very important changes, since it was discharged purified from the left side of the heart, and that during its return to the centre, it receives various recrementitial matters, the result of an absorption which is probably going on at all times, and at every point of the body. The veins being the channels by which part of the decayed and useless molecules of the body are conveyed into the torrent of the circulation, before being eliminated from the system, it is quite reasonable to expect that they may frequently become morbidly affected.

The attention of pathologists has of late years been most advantageously directed to this very curious subject of investigation, and much interesting information has already been accumulated. But it is not with phlebitis and other diseases of the veins that we are at present to be engaged, but with the morbid condition of another set of vessels, allied indeed as to function in several respects with the veins, but essentially distinct from them. There is, says M. Velpeau, another organic system which appears to share with the veins the troublesome prerogative of being the conductors of numerous causes or germs of disease to every part of the body, and of assisting in the development of a multitude of lesions, differing in character and in situation as well as of being the seat of many morbid alterations affecting immediately their own structure. We shall now attempt to illustrate some of the most important of these alterations. As a matter of course, we commence with inflammation; this being invariably the basis or concomitant of all the others.

Like every part of the animal frame, the lymphatic tissue is liable to inflammation of various sorts, as well as of different degrees. It may be either primary and idiopathic, or secondary and symptomatic. It may be induced as the result of wounds and contusions of the lymphatics themselves, or of the contiguous structures. Perhaps, however, the most frequent cause is the accidental introduction by absorption of foreign or abnormal matters, generated during the morbid changes of these structures, into the canals of the lymphatic vessels. If this etiological view be correct it points out an intimate analogy which may be traced between the pathology of the venous, and that of the lymphatic system. The countless number of the lymphatics in every part of the body must expose them in an especial degree to the operation of noxious agents. Mascagni, and his distinguished followers, MM. Fohmann, Lauth, and Panizza, are of opinion that almost the whole of the cellular tissue and of its "composés" is made up of lymphatic vessels; but, without adopting this opinion to its full extent, we are quite warranted in asserting that every diseased part of the body is necessarily surrounded and traversed by innumerable lymphatics, and that wherever there exists a lesion of structure, there must these vessels be exposed to becoming charged with heterogeneous matters, the tendency of which is to excite inflammation in their walls.—Viewed in this respect, the inflammation of the lymphatics presents two very distinct varieties, according as the diseased focus, "le foyer morbide," and its contents are, or are not, exposed to the contact of the atmospheric air.—When there is no wound, ulcer, or other solution of continuity, by which the admission of the air is permitted, the molecules of the diseased secretion do not in general acquire properties so decidedly poisonous, as when the deposition takes place in open wounds or cavities. The phenomena of psoas abscess, and of wounded or diseased joints, afford an apt illustration of this remark. By some indeed, the rapid aggravation of the symptoms in such cases, when the cavities burst outwardly, has been attributed to the inner surface of the diseased sac becoming affected with inflammation; but certainly this, if a con-

comitant, is not the sole cause of the mischief. The absorption of the offensive pus by the surrounding veins and lymphatics appears to be immediately excited; and thus the whole system becomes speedily poisoned with the noxious fluid which has been conveyed by them into the circulation. How often do we observe that deep-seated abscesses, and other morbid changes, may continue for a great length of time, without inducing any alarming or even any very apparent symptoms, provided the abscess or lesion be altogether secluded from the contact of the air. Take, for example, some organic lesions of the nervous centres, and of the parenchymatous viscera of the abdomen; and contrast these with cases of the same sort of disease, when it occurs in the lungs, windpipe, intestines, or other viscera communicating with the air. In the former cases, the symptoms very generally are indicative only of disturbed function of the affected organ; whereas, in the latter, the adjacent tissues, the cellular substance, the lymphatic glands, &c. are always, more or less, involved in disease at the same time, and the general system labours with violent irritation. Whether an absorption of the diseased particles goes on at all in the first set of cases, or whether only these particles are less irritating and poisonous, and therefore less apt to induce inflammation of the lymphatic vessels and glands, than in the second set of cases, we are not quite prepared to decide; but certain it is, that the exposure, or seclusion of any morbid deposit from the contact of the external air has a mighty influence in accelerating or retarding the progress of the mischief.

Although the absorption of acrid matters is, we believe, by far the most common cause of inflammation of the lymphatic system, it is not the only one. It may be induced also either from continuity of tissue of other parts already inflamed, or from an obstruction to the passage of the lymph along the absorbent vessels. It is not easy to account for that peculiarity of some punctured wounds, which disposes them in an especial degree, to be followed by inflammation of the lymphatics. The observation, however, is one of daily experience.

In cases of poisoned wounds, the accident is no doubt attributable to the direct absorption of the virus.

The symptoms which indicate inflammation of the lymphatics are either constitutional or local. The local symptoms vary considerably in their characters, according as the inflamed vessels are merely subcutaneous, or are more deeply seated. In the former case, the evil will be almost invariably found to be caused, or at least preceded by a solution of continuity, either from a wound, or some ulceration, of the integuments; and it will be very generally observed that the appearances of the wound or ulcer have undergone certain changes, before any symptom of inflammation of the lymphatics has occurred. If suppuration has existed, the quantity as well as the qualities of the discharge will be found altered: the lips and circumference of the sore will be affected with an erythematous blush, and the part will be tense and painful. On a careful examination, hardened striæ or cords, extending from the point of the injury in the direction of the lymphatics to the nearest cluster of lymphatic glands will be felt, and in many cases are apparent to the eye. These striæ are generally either of a bright red, or of a purplish hue: they are tortuous, irregular, and more or less interlaced with each other. It is not always in the immediate vicinity of the wound or ulcer, that these striæ are first observed. M. Velpeau has in numerous instances detected them at some distance from the point of injury, before they were discoverable nearer to it. Patches of erysipelatous redness, of greater or less extent, are frequently observed in the lines of the inflamed vessels. These patches gradually extend, and may at length coalesce, so as to form one uniform surface, affecting the whole of an extremity. A sharp, pungent or burning pain is usually felt in the inflamed surface; the swelling at first is often inconsiderable, and the intervals between the inflamed striæ may retain their natural softness and pli-

ancy: but the reverse of this is more commonly observed, and the tumefaction of the subcutaneous tissue speedily follows the first appearance of an inflammation of the absorbents. The tumefied integuments however seldom acquire that extreme tension and hardness, so characteristic of the diffuse inflammation of the cellular substance, which is produced by other causes: the parts, when pressed by the finger, feel rather spongy and œdematous. In short, none of the local symptoms of inflamed lymphatics exhibit usually much intensity and severity; the redness, heat, swelling and pain are by no means commensurate with the gravity of the constitutional symptoms.

Among the characters of inflammation of the superficial lymphatics, we must not omit to mention the swelling, not unfrequently terminating in suppuration, of those glands with which the vessels are connected.

When the deep-seated lymphatics of a part are first inflamed, as is not unfrequently the case after deep punctured wounds, severe contusions, central suppurations, the symptoms are somewhat different from those enumerated above. The pain, deep, pungent and constrictive, is the symptom which first fixes attention: confined to a limited spot for a day or so, it gradually extends in the direction of the chief lymphatics of the part. It is not, says M. Velpeau, a pain which is radiating, linear, diffuse, or paroxysmal: it is fixed, although emanating from different foci, and of unequal severity in different points. The tumefaction speedily follows the attack of pain, and the one symptom seems to partake in some degree of the characters of the other; for the affected part is not swollen uniformly and alike, but rather in distinct masses, or lumps varying in extent and degree. It is easy to recognize that the swelling commences in the deeper parts first; for the skin generally retains its suppleness for some time. As the disease continues, it becomes more tense, and shining, as if it were attenuated and rarified, and it exhibits a milky-white or pale rose colour. The infiltration of the affected part is always more considerable in this, than in the former species of the disease.

Although we have attempted in the preceding remarks to point out the distinctive characters of the two forms of inflammation of the lymphatics, it is to be observed that neither of them usually exists long without being complicated with the symptoms of the other. In the first form, the infiltration and swelling gradually pervade the entire thickness of the affected part; and in the second, the superficial lymphatics become in a similar manner inflamed, as appears from the red striæ, and erythematous patches visible on the skin.

The constitutional symptoms which attend inflammation of the lymphatics, now demand our attention. Very frequently the invasion of this disease is first announced by irregular shiverings, and tremours over the whole body. These shiverings are followed by feverish heat, dryness of the skin, thirst, and the other symptoms of pyrexia. During the continuance of the disease, the systemic disturbance very often assumes all the characters of typhoid or ataxic fever, in consequence probably of the early absorption of "fluides denaturés" into the general circulation. We have not, however, yet made sufficient progress in the humoral pathology of modern times to determine the amount of influence attributable to this cause.

Inflammation of the absorbents is always to be considered as a disease of serious import. When the constitutional excitement runs high, or when great depression and tendency to low delirium attend the invasion of the disease, it may prove fatal, before the local mischief is very serious or extensive.

But more generally the period of danger is that, when the inflammation has terminated in the deposition of purulent matter. In some cases, the pus is diffused and infiltrated through the affected parts; in others, it is more circumscribed, and is contained within cysts more or less complete, and extensive. Unfortunately the former is most frequently the case, the pus following the line of the vessels, and becoming diffused between the different strata of the muscles. The distinct or insulated abscesses usually occur in the sites of the lymphatic glands; but they seldom

present the circumscribed hardness which attends phlegmonous collections of matter.

Several of these may be formed at different points of the limb, and then they may successively break and discharge their contents. M. Velpeau has seen as many as fifteen thus gradually develope themselves, one after the other. In some fortunate cases, they speedily heal, after breaking, even although the pus discharged has been unhealthy and offensive; but more frequently, the patient's strength is gradually exhausted, in part from the profuseness of the discharge, from the formation of abscesses in some of the viscera, and partly also from the alteration induced in the circulating fluids from the absorption of the purulent matter. The shiverings, the decomposition of the features, the ague-like paroxysms of fever, the diarrhœa, irregular sweatings, &c. these symptoms indicate that the system is poisoned by the introduction of a septic principle.

In some rare cases, inflammation of the lymphatics appears to terminate in mere induration and thickening, giving rise to an elephantoid enlargement of the affected parts. This termination belongs exclusively to the chronic form of the disease. The lymph of the vessels, becoming infiltrated into the meshes of the cellular substance, gradually acquires a firmer and firmer consistence, so that in course of time, it looks, when examined on dissection, like a lardaceous deposit.

The observations of M. Velpeau, on the treatment of inflammation of the lymphatics need not detain us, as they communicate nothing very novel or important.

He has alluded to the occasional efficacy of mercurial ointment smeared thickly over the affected parts, but he has not spoken at all of a far more potent remedy, we mean the local application of the nitrate of silver, either in substance, or what is preferable, in solution, over the whole extent of the inflamed surface. This agent exerts an unquestionable influence on the deep-seated subcutaneous tissues, as well as on the skin itself; and we believe that many cases of diffuse inflammation of the cellular substance, whether complicated with disease of the superficial veins and lymphatics, or not, may be most advantageously treated with the nitrate, not omitting at the same time appropriate constitutional treatment. The diffused hardness, which generally remains for a considerable time, after the violence of the disease has subsided, is dissipated most conveniently by frictions with an hydriodated ointment.

In the Number of the Archives Generales for March last, M. Duplay has communicated some instructive cases of metro-peritonitis (puerperal fever,) in which on dissection, the lymphatic vessels of the uterus, and of the adjacent parts were found filled with purulent matter. In all the cases, there was a sero-purulent effusion in the abdominal cavity, and in most of them, the substance of the uterus had undergone a considerable ramollissement, and purulent infiltration. In more than one half of the cases, pus was found in the branches of the uterine veins; and in two the thoracic duct itself was observed to contain a puriform serosity. The following description of the appearances which the diseased uterine lymphatics exhibited, is interesting to the pathologist. On the interior surface of the womb, as well as immediately underneath its outer peritoneal covering, we observed numerous grey-coloured lines alternately contracted and dilated, extending in various directions, and communicating apparently with each other. The size of these vessels varied from that of a needle to that of a crow-quill.

Here and there they were dilated into cavities or cysts, large enough to hold a pea. These cavities might be supposed to be small abscesses; but an attentive examination of several cases has satisfied M. Duplay, that they are in truth dilated portions of lymphatics, the walls of these being found to be strictly continuous with the walls of the sacs. The diseased lymphatics were usually most readily discovered on the sides of the uterus, where the broad ligaments are attached, and also around its cervix. Sometimes they might be traced along the trunks of the uterine and ovarian veins, anastomosing with

other lymphatics proceeding from the ovaries and fallopian tubes, until they reached the lumbar glands. These glands exhibited various morbid appearances—sometimes they were merely swollen, and redder than natural; at other times they were much softened, and infiltrated with purulent deposit. We have already mentioned that pus was found occasionally, even in the thoracic duct; but this is of very rare occurrence. M. Velpeau has recorded one such case, and M. Tonnellé states that he has met with two. The internal surface of the lymphatics, which contained pus, did not exhibit any pseudo-membranes, or any other traces of diseased change in M. Duplay's dissections.

In some cases, it is less difficult than may be imagined by most to ascertain the state of the uterine lymphatics, as they become greatly enlarged during pregnancy, so as even to equal the size of many of the veins. We have already alluded to the morbid changes of the structure of the uterus itself, which were usually found whenever its lymphatics contained purulent matter. The ovaries, too, and the fallopian tubes, were frequently completely softened in texture, and converted into a "putrilage," which broke down between the fingers.

M. D. has never found abscesses in the joints, nor in the liver, lungs, and other distant viscera, when the uterine lymphatics only, and not the veins at the same time, were diseased.—*Archives Générales.*

These remarks of M. Duplay are all confirmatory of the doctrine which has, of late years, been clearly established, that puerperal fever is, in truth, an inflammatory affection of the uterus and its appendages, and more especially of the uterine veins and lymphatics.

There is evidently, in this disease, a strong tendency to the formation of pus within these vessels; sometimes one set, sometimes the other, is chiefly involved in the morbid process. In both cases, the purulent matter is conveyed into the mass of blood, which thus becomes tainted throughout. Unhappily, the local symptoms are often so obscure as to pass unnoticed, while the constitutional energies rapidly sink, from the operation, apparently, of a malignant typhoid fever.—*Rev.**

On the Use of Local Applications to the Pustules of Small-pox.

Very opposite opinions have been held as to the propriety of using any topical applications in the treatment of small-pox, with the view of modifying the course of the symptoms, and of preventing, or at least of diminishing, the disfigurement of the surface. Some physicians have recommended that the face, and other parts which are most sensitive, and, therefore, are most liable to suffer from the cutaneous irritation, should be bathed frequently with a mild anodyne fomentation, such as equal parts of linseed-tea and the decoction of poppy-heads—others have preferred oily applications; and if these be used, perhaps none is altogether so serviceable as the linimentum aquæ calcis, composed of lime-water and linseed-oil; while a third set praise highly the practice of dusting the skin with calamine, or tutty-powder, more especially in that stage of the eruption when the pustules are breaking, and their contents are oozing out.

M. Bretonneau was the first, we believe, who proposed the topical employment of the nitrate of silver, as the most effectual means to arrest the progress of the suppuration, and to prevent the cutaneous pits and ugly scars, which are so frequently left behind after confluent small-pox. He advised that each pustule on the face should be pricked with a gold or silver needle, whose point had been wetted with a solution of the nitrate. A still more effectual method was to remove the apices of the pustules, and then to apply directly a sharp-pointed stick of the solid caustic. M. Velpeau has reported very favourably of the effects of this practice, which he

* We cannot concur with our Reviewer entirely in some of his commendations of the Hydriod. of Potass.—Eds.

adopted in a large number of cases; and M. Guersent, the talented physician of the Hôpital des Enfans at Paris, states that he has frequently succeeded in arresting completely the progress of detached and isolated pustules, and in thus preventing the formation of scars on the face and other exposed parts.

Under the name of the "methode ectrotique,"* M. Serres has recommended the use of the nitrate on a much more extended principle than any of his predecessors. He recommends it, not only with the view of preventing the deformity of cicatrices, but also as a most efficacious means of counteracting the inflammation of the membranes of the brain, of the eye, ear, &c. which so frequently complicates the progress of small-pox. The method, he employs, varies, according as he wishes to act on isolated pustules, or on a mass of confluent ones. In the former case, he uses a solid stick of the caustic, which he applies to each pustule (without, however, opening it, as M. Bretonneau has practised); and, in the latter, a solution of the salt, of the strength of from 15 to 45 grains to the ounce of water. If the lotion excite much tingling, the part may be bathed with tepid water, and afterwards smeared with olive oil. Ten or twelve hours after the cauterization, it may be necessary to apply leeches to the neck repeatedly, if there is much swelling of the face. When the cauterization of a mass of pustules is superficial, it opposes the developement of the pustules, but it does not arrest the progress of the disease. There exists always, under the black crust which is formed, a serous oozing; and when the crust separates, we frequently observe the traces of pustules which havepassed through their various stages. When the solution applied is much stronger, it acts as a caustic to a considerable depth; the epidermis and pustules are dessicated, and the case becomes one of a simple burn, "an second degré," attended with very considerable pain; but the constitutional disturbance, nevertheless, may be equally severe, and the patient may sink just as if no local means had been used, supposing the case to have been one of malignancy from the beginning.

M. Damiron agrees so far with M. Serres, that his practice will prevent, in a great measure, the formation of scars and other deformities, so frequently consequent on confluent small-pox; but he does not regard it as a prophylactic of inflammation of the encephalon, as M. Serres has supposed. He alludes, however, to its great utility in arresting the progress of any pustules which may form on the conjunctiva or cornea, and which, it is well known, often induce great irritation, and even destruction of the eye-ball and lids, and ultimately total blindness, in many cases.

In the course of the preceding year, some experiments were made at the Hôpital de la Pitié, to ascertain the "ectrotic" effect of some other applications to variolous pustules. The "emplatre de Vigo, cum mercurio,"* softened with olive-oil, was found to be the most convenient and efficacious. Whenever this had been applied, the pustules were not only less numerous than elsewhere, but many of them "sont avortées," without having proceeded to suppuration, and the subsequent desquamation was observed to be much sooner over. When the pustules had begun to suppurate before the plaster was applied, it was remarked that frequently their contents were absorbed more or less completely, and that the subsequent course of the malady was altogether more favourable than is usual under the common treatment.

The simple mercurial ointment, and

* This word is derived from the Greek verb, εκτιτρωσκω, to cause abortion.

* The simple "emplatre de Vigo" is made by boiling lard, wax, turpentine, litharge, oil, and vinegar together, adding some essential oil as it cools; the "e. de Vigo, cum mercurio" is ordered to be prepared by incorporating some quicksilver, previously extinguished in liquid styrax and turpentine, with the simple plaster, softened by heat.

an ointment composed of litharge and lard, were sometimes substituted for the "emplatre de Vigo cum mercurio," and with nearly equal benefit.

If the practice of other physicians confirms the statement of M. Serres, he will have deserved well of medical science. We are assured that the "avortement" of the pustules is never followed by any disagreeable symptoms; and that just in proportion to the extent of the arrest of the local distress, so is the constitutional suffering rendered more mild and favorable.—*Archives Générales, et Dictionnaire de Medecine.*

On the Symptoms and Treatment of Gall-Stones.

Case 1. *Grief of Mind—repeated Attacks of Jaundice—Cure by Purgatives.*

Mad. M., 28 years of age, having for the 24 hours previously suffered from severe pains in the epigastrium and back, was seized on the 21st July with violent efforts to vomit. A quantity of yellow bile was rejected, and the patient felt herself easier. But in the evening a shivering came on, the pains returned, the skin became jaundiced, and the whole system was feverish. Veal-tea, and a mixture containing æther and laudanum, were administered. On the 24th, the icteric symptoms had disappeared, apparently in consequence of a profuse perspiration, which had stained her chemise of a yellow colour. The urine was high-coloured, thick, and left an oily deposit on the vessel. On the 5th of August, all her distress returned; the pains were so severe as to cause her to double up the body, and to press with all her might on the epigastrium: the shiverings affected every part of the frame.

Prescription.—Chicken-tea made into an emulsion: eighteen leeches to the anus. Mixture composed of lettuce-water, lemon-syrup, carbonate of potass, and a few drops of laudanum. Warm bath and repeated emollient and anodyne lavements.

Between this date and the 3d of December her health was never quite established. At intervals the pains, accompanied with vomiting and jaundiced state of the skin, frequently returned. Ætherial potions, combined with laudanum and castor, were used with advantage, and an opiate hemlock plaster was applied on the epigastrium. The catamenia remaining absent, repeated leechings from the vulva were ordered. But these means afforded only temporary relief, and M. Bricheteau determined therefore to try a course of purgatives, "dont j'avais jusque là redouté les effets." No sooner had a senna aperient mixture begun to act briskly, than several small biliary calculi were discovered in the motions: they were of a brown colour, and uneven, and very friable. From this date, the lady's health was speedily improved, and eventually she recovered completely her embonpoint.

Two years after the cure, Mad. A. had a severe attack "de ce mal terrible," which M. Bricheteau quickly removed by the application of ice to the right hypochondriac region.(!)

Remarks. The preceding history furnishes a fair specimen of the inefficient and even pernicious effects of French practice in a disease, which no British practitioner would dream of treating in any other way, than in that which effected the cure; we mean by administering active purgatives, either alone, or in combination with antispasmodics.

Case 2. *Mental Distress—Frequent Attacks of Epigastric Pain during several years—Cure by the Application of Ice to the Abdomen.*

Mad. R., 45 years of age, had had repeated attacks of pain in the epigastrium, which was sometimes so severe as to bend her almost double, and force her to scream out. The only relief she obtained during the paroxysm, was from very firm pressure made with both hands on the seat of the suffering. M. B. was called to her assistance on one occasion, and "after," says he, "trying various remedial means ineffectually, I thought of applying one bladder full of ice to the epigastrium, and another to the back. Judge of the patient's surprise, on being relieved from an agony

which had lasted 36 hours, by the time that the ice was completely melted." For five years this lady remained free from any similar attack; and on being, after that lapse of time, again seized, M. B. employed the same means with the like magical success.

[No mention is made of any biliary calculi having ever been voided, but the author prognosticates their presence, from the circumstances, that his patient was of an extremely bilious constitution, that she had had usually an attack of jaundice after each attack, and that her disposition was hasty and irascible.—*Rev.*]

CASE 3. *Repeated Attacks of Umbilical Pain—Cure by Purgative Lavements.*

Mr. M., 67 years of age, of a bilious constitution, and who had spent an anxious and laborious life as a bookseller, was seized in April, 1828, with acute pain near the navel, which lasted for five hours, and at length was relieved by frictions with oil and laudanum. On examining the abdomen attentively, M. B. discovered that pressure on the epigastrium excited pain, and moreover that there was an unusual resistance to the hand in the situation of the pyloric end of the stomach. This symptom taken in connexion with the frequent vomitings of a black-coloured matter, and other signs of stomach distress, caused M. B. to have fears of the presence of some organic lesion of that organ. Diverse remedies, such as frictions with antimonial ointment on the epigastrium, baths, and some local opiates, dissipated the hardness and resistance of the epigastrium.

In July, 1829, the patient experienced a most severe attack: the pain was felt chiefly in the right hypochondrium, and accompanied with a spasmodic state of the abdominal muscles, so rigid that the plane of the belly was as hard and resisting as a deal board, and so agonizing, that the patient twisted his body into various positions, squeezing the stomach with both hands, and screaming out for relief. These attacks terminated usually by vomiting of a quantity of bilious and mucous matters.

A purgative lavement having been administered, a number of small biliary calculi were voided with great relief to all the symptoms. Baths, soothing and antispasmodic drinks, a milk diet, Seltzer water alone, or "coupé" with beer, and "le remede de Durande" (composed of two parts of the spirit of turpentine and three of sulphuric æther: dose two scruples) were prescribed. As each attack subsided, M. B. always ordered a purgative enema, which almost uniformly had the effect of provoking the discharge of several biliary calculi.

This old gentleman gradually recovered his health, and although still subject to occasional relapses, the attacks were never in future so severe, as they had wont to be.

Remarks. Part of the dietetic regimen ordered in the preceding case is reprehensible. Milk and beer are two of the very worst articles of food for a bilious person.

Is it not strange that M. Bricheteau always deferred the use of purgative injections, until the attacks began to abate? Had they been used at an earlier period, and especially along with purgative medicines taken by the mouth, we are quite confident that the patient's sufferings might have been much abridged.—*Rev.*

CASE 4. *Vomiting of a Biliary Calculus.*

Madame G. aged 49 years, accustomed to a very sedentary life, and frequently the victim of great mental distress, was seized in June, 1833, with excessive tearing pains in the epigastrium, which was so sensitive, that the lightest pressure was insupportable; and the abdominal muscles were so powerfully retracted, as to leave a deep hollow in the centre of the abdomen, large enough to admit an orange. The sufferings were occasionally so intense, as to deprive the patient of all consciousness, and to force a cold perspiration from every pore: "cette infortunée appellait la mort à grands cris."

The only treatment which had afforded any relief, was the employment of local and general bleedings, and the use of

opiates and antispasmodics, in conjunction with warm baths. As the catamenial flow had been very irregular for some time past, the occasional application of leeches to the vulva, aided by the use of revulsive foot-baths, was resorted to. During one of the severe paroxysms of abdominal pain, this lady vomited a firm rounded substance, of the size of a filbert. It was of the consistence of slightly dried clay, was very friable, had a yellowish-grey colour, and afforded on chemical analysis a large quantity of adipocire.

The expulsion of this substance was accompanied with dreadful colic, and followed by a copious alvine evacuation of bilious and mucous discharges, containing a quantity of "diffused solid matter, similar in appearance to what had been rejected by vomiting." The symptoms gradually, but very slowly abated. In a subsequent attack, which this lady experienced, great relief was obtained by applying a blister on the epigastrium, and sprinkling the excoriated surface with a quarter of a grain of acetate of morphia blended with a little lard.

In the course of an hour, the pain was considerably mitigated, and soon ceased entirely. On the morrow it returned, but with less severity. "For five successive days these applications were continued with an always increasing advantage."

Case 5. A young lady, 26 years of age had during several years suffered frequent returns of most severe epigastric pain, which had been supposed to be of an hysterical character. In one of these attacks, M. B. was called, and he found his patient writhing under excruciating pain in the right hypochondrium, which was so tender that the lightest pressure was insufferable. The attitude which was most easy, was by drawing up the limbs to the belly, and bending the head and body forwards, so as to relax as much as possible the abdominal muscles. She had been in this state of extreme suffering for twelve hours. Various remedies, as æther, the drops of Durande, purgatives, bleeding, &c. had been successively employed, with but little benefit, until the patient voided several small biliary calculi, of the size of large pins' heads: when thrown on a live coal, they burned away with a bright flame, and with a slightly mucous smell. Laxative drinks and enemata encouraged the discharge of more of these calculi, and the patient ultimately was restored to good health.

On the Symptoms of Biliary Calculi.

The signs which attend the early formation of these calculi are usually very vague and indecisive. The patient has probably been subject for a length of time previously to bilious attacks, attended with acute pains in the epigastric or right hypochondriac region, extending to the back and shoulders, greatly aggravated by stretching the body, and relieved by doubling it forwards, with the knees drawn up, and by firm compression with the hands on the pained part. At other times, the abdomen is so tender, that the gentlest touch aggravates the sufferings. The stomach is irritable, and frequent and painful vomitings are generally present; the skin acquires a jaundiced hue, and the urine is high-coloured and offensive.

These attacks, after continuing for from a few hours to one, two, or more days, gradually abate, leaving the patient exhausted, and icteric, or perhaps affected with actual hepatitis. In the less severe cases, the relief consequent on the discharge of one or of several calculi is so complete, that the patient is able perhaps on the following day to resume his accustomed occupation.

It deserves notice, that a large number of calculi, even of a very considerable size, may be present in the gall-bladder for a length of time, without giving rise to any violent symptoms. How often do we meet with examples of this occurrence in dissecting the bodies of patients, who, we are certain had never suffered any of the acute sufferings described above. On the other hand, we have strong grounds of belief that many cases of what are

called bilious colic, and of cramp of the stomach, are in truth attributable to the passage of gall-stones.

Treatment. Antiphlogistic and sedative remedies are seldom, says M. B. of much benefit in relieving the sufferings excited by the passage of biliary calculi. The "remede de Durande" is of use only occasionally. In some cases it has certainly aggravated the distress, by irritating the stomach, increasing the nausea, and inducing a feverishness of the whole system. It was at first highly lauded as an actual solvent of biliary calculi. This chemical medication originated with Fourcroy, who, finding that æther, oils, and alcalis dissolved the calculi out of the body, recommended them as certain specifics.

With respect to purgatives, M. Bricheteau, whilst he admits their great utility in two or three of the preceding cases, is of opinion that they ought not to be administered in the earlier period of the attacks, on the grounds that they are apt to be rejected by vomiting, and also that they cannot possibly be of service, until the calculi have passed into the duodenum. With not a little inconsistency he however advises the external use of the croton oil rubbed on the epigastrium.

The local application of ice to the seats of the pain he strongly recommends.—*Clin. Med. par Dr. Bricheteau.*

Remarks. Our readers need not be told that we deem the therapeutic directions of M. Bricheteau to be very faulty. They are indeed utterly unworthy of a practical physician.

The treatment of the disease which is frequently induced by the passage of calculi from the gall-bladder into the duodenum has a two-fold object in view;—first, to relieve the intense pain and spasmodic suffering; and secondly, to promote the passage and discharge of the offending substances. The use of warm-baths, hot fomentations, and the internal administration of a powerful antispasmodic, are the most judicious means in most cases. Occasionally it is necessary to draw blood; for it is well known that syncope is the most potent of all antispasmodics. Where bleeding is not advisable, a mixture composed of tincture of rhubarb, æther, laudanum, and peppermint water, will be found to be of great use in most cases. At the same time, a strong purgative injection will be found to cause a derivation of action from the upper part of the intestinal tube. The injection may be made either of senna and salts, or of spirit of turpentine in barley-water.

Frictions with a stimulating anodyne embrocation on the abdomen are frequently of considerable advantage.—*Rev.*

CASE OF MOLLITIES OSSIUM, AND FATTY DEGENERATION OF THE MUSCLES.

The patient, a woman 61 years of age, was an inmate of the Hospice de la Salpetrière. Two years previously to her admission she had injured her left thigh, which in consequence became inflamed and much swollen. After five months treatment the swelling, &c. was subdued. A year ago, the pains returned without any evident cause in the weak limb; they then extended upwards on each side to the false ribs; and six months later, both shoulders and the right lower extremity became affected. It was with the hope of obtaining relief, that she was admitted into the Hospice in May, 1834. There was no redness, or inflammatory tumefaction visible at any of the pained parts. The pains were always much aggravated by any movements. In the lower limbs, they generally were felt first in the feet, whence they shot up, "comme un eclair," to the pelvis; at other times they were more dull, and diffused over a larger surface. The pain at the lower part of the thorax was sharp and lancinating—that in the shoulders was less violent, and did not radiate to any extent. The limbs were usually semi-flexed; when, however, the pains were severe, they were forcibly contracted. The important functions of the body were but little dis-

turbed, and the intellect was unimpaired.

The acetate of morphia was given with occasional advantage. M. Recamier prescribed a terebinthinate potion, which seemed to agree with the patient; but the pains always retained the same character, of being much aggravated on the slightest motion: in the chest they were sometimes so acute, as to deprive the poor woman of her consciousness while they lasted.

The lower limbs became at length fixedly bent. An attack of bronchitis was the immediate cause of death, which occurred in January, 1835.

Dissection. The sciatic, median, radial, ulnar, and pneumogastric nerves were most attentively examined: they were healthy in every respect, with this exception, that the cellular partitions which separated the different fibrils, even the smallest ones, were "envahies" with fatty deposit. Most of the muscles were extremely pale, and of a yellowish colour. A large portion of the proper muscular fibre had disappeared, and its place was occupied with adipose tissue, which might be traced "entre les fibres les plus tenaces." This fat was everywhere peculiarly dry to the touch, and looked as if it had been long exposed to the air.

The vertrebra, the clavicles, the bones of the arm, thigh, and pelvis were so soft as to yield to the knife. The interior of the bones exhibited, almost every where, "un tissu areolaire trés rarifié," of a greyish white colour, containing a quantity of a gelatiniform deposit. In some points, as at the neck of the femur and in the left os ilii, the osseous structure had degenerated into a reddish detritus, occupying the centre. None of the joints presented any very obvious morbid appearances.

Observations. During the life of the patient, her disease was supposed to be chronic rheumatism, complicated with some degree of neuralgia. In considering the organic etiology of the case, we ought to remember that the muscular tissue has a tendency, in bed-ridden patients, to undergo a partial transformation into fatty matter. Some pathologists object to the term "transformation," on the ground that the morbid appearance is attributable, not to an actual conversion of the one tissue into the other, but only to the deposition of fatty matter in the room of the muscular fibre, which had previously become atrophied and absorbed. The subject of the preceding case had been long confined to bed, in an almost motionless position. The analysis of the softened bones indicated that they contained an unusual quantity of a gelatinous substance. The immunity from disease of the joints, the very parts where the pains had been most severely felt, suggests a useful reflection to the practical physician. If the question be put, what probably was the cause of the fatty degeneration of the muscles, and of the gelatinous degeneration of the bones, we should answer—"une grande retrogradation vers leurs élémens primitifs de tous les organes devenus inutiles dans l'économie."

It is a curious feature in the pathology of some atrophies, that certain organs are often found to be converted more or less completely into a fatty matter. The peculiarly fatty condition of the liver in phthisis pulmonalis is an apt illustration of this remark.

Hydatid Cyst, opening into the Intestines and Urinary Bladder—Remarks on Hydatids in general.

The patient, a man, 40 years of age, experienced for the first time, in May, 1828, a sense of weight, accompanied occasionally with colicky pains in the hypogastric region. The abdomen generally was rather full, and, in the left iliac fossa, an indolent swelling, of the size of the fist, could be distinctly felt. In April, 1834, he was admitted into the La Charité Hospital, in consequence of pyrexial symptoms, which had existed for the preceding week. The tumor in the left iliac fossa had extended itself into the hypogastrium; it was as large as a full-sized orange, was slightly painful when pressed, and communi-

cated, on percussion, the feeling of an indistinct fluctuation, and of a "fremissement, ou de collision de corps elastiques, mobiles, comme si on frappait sur un corps elastique." On the following day, he voided by stool a very great quantity of torn hydatids, mixed with pus, and other liquid matters. Some of these discharged cysts must have equalled in size a walnut. For several successive days, hydatids were voided with the stools.

The feverish symptoms rapidlyabated, and the swelling diminished in volume. For a month, the patient's health seemed to be much better; but after that period, he was seized with an attack similar to the preceding one; the abdomen again became tense and painful, and the constitution speedily sympathised with the local distress: the bowels were obstinately costive, and the discharge of urine was scanty and attended with pain. After some days sufferings, a quantity of hydatids was again passed per anum; and forthwith the pyrexia subsided: the tumor was still hard, tender, but not elastic as before. On the 8th of June, he was seized suddenly with an inordinate desire to void urine; hitherto it had been quite clear, but now it was muddy, purulent and mixed with a gaseous fluid. The patient being much alarmed by bubbles of air escaping from the urethra, mentioned the occurrence to his physician, who satisfied himself of the correctness of the account.

Under the use of appropripate means, the state of the urine became much more natural, and there was no longer any escape of air along with it. The patient left the hospital at this time, retaining however a hard and indolent tumor in the left groin.

Observations. With the exception of the bones, there is perhaps no part of the body exempt from the formation of the vesicular entozoa, known by the name of hydatids (from their watery contents) or acephalocysts (from the deficiency of any appreciable head.) The liver, womb, kidneys and cellular tissue are the parts in which they are most frequently found.

Numerous cases are on record, similar to the preceding one, in which they have been discharged from the abdomen either by an outward opening through the abdominal parietes, or by vomiting, or lastly by stool. M. Devilliers has narrated a most interesting case, wherein a vast quantity of hydatids was discharged through an aperture in the epigastrium: the woman, who was upwards of seventy years of age, ultimately recovered. Plater and Guatani have published similar cases.

Hydatids have been discharged from the urethra, and numbers of them have been found after death floating loose in the bladder.

In such cases, it is most probable that they have descended from the kidneys along the ureters, or that they have been introduced into it from a cyst formed in the pelvis, which has opened by ulceration into the bladder, as is supposed to have taken place in the preceding case. Their occasional development within the cavity of the uterus, giving rise to symptoms stimulating those of abortion, is well known to every obstetrical physician. Dr. Freteau has published in the Journal de Médécine, Chirurgie et Pharmacie, a most interesting example of a number of hydatids having been discharged after an operation of paracentesis thoracis for empyema. M. Cloquet exhibited to the Faculty of Medicine in Paris, nearly 150 hydatiform bodies, varying from one to three lines in diameter, lenticular in shape, and nearly transparent, which he had discovered floating within the bursa mucosa, situated between the tendon of the gluteus maximus, and trochanter major; and since that date, he has met with them in an accidental cyst, near the insertion of the triceps brachii, and also in the sheath of the tendon of the palmaris longus.—*Archives Générales et Dict. de Medicine.*

II.

CLINICAL REVIEW.

County of Meath Infirmary.

The more we see of our Dublin contemporary, the more we are disposed to admire the spirit with which it is conducted. It is impossible to read its successive numbers without being struck with the general value of its articles, and the professional attainments of its contributors. We are delighted to observe this—we are delighted beyond measure to see in Ireland, as elsewhere, how great has been the progress of medical science, how much greater its progress must be when such energy is employed in its advancement. Success we need not wish to our contemporary, for success it has obtained already; but we do sincerely wish it a continuance of those exertions on the parts of all concerned in it, which have placed the laurels already on its brow, and will ever keep them green.

In the management of a periodical medical Journal there are two plans open to its conductors. They may either select extraordinary cases, or captivating speculations, and, ever on the hunt for something new, they may tickle the tastes of their readers by this species of diablerie—or, pursuing a more direct and more quiet path, they may point attention to what seems likely to be useful and true. Before men had discarded the subtleties of the Aristotelian philosophy, and seen in induction the objects and the scope of knowledge, simplicity and science were considered incompatible. System after system, fanciful and brilliant, rose like a rocket before men's eyes, and, just when it seemed at its zenith, broke It broke, but another rocket blazed, and some fire-work was always in the clouds. In the midst of these false lights, inductive reasoning like the day was drawing on, and when it fairly dawned how yellow and how dull those artificial fires became. We have long professed ourselves the prophets, or rather the followers of the new philosophy—the zealous, though the humble instruments of disseminating its beneficial truths. We have been called, and we are, utilitarians in medicine, and we would rather confirm in the minds of doubting readers one substantial fact, than parade before them the most shewy array of critical or speculative abstractions.

We have usually chosen for extract, analysis, or criticism, papers, which wear what we consider a practical tendency. But what are practical facts, and who are practical men? That is just the point on which we would offer a few remarks.

The persons in our profession who term themselves practical men, are too often exceedingly shallow fellows. They are men with little learning, and with much prejudice—the alluvies left by the subsidence of the old Hippocratic and empiric systems. They are, as Tristam Shandy has it, for the most part very hobby-horsical. They have great fancies for particular remedies—for particular conditions of system—talk much of idiosyncrasies—are fond of the good old terms, asthma, and white-swelling, and so forth. These gentlemen usually exclaim against the mania for morbid anatomy. If we were asked the diagnostic marks of such a practical man as we have drawn, we should say, his dislike, more or less avowed, of morbid anatomy, and his being always prepared with some remedy to knock some particular complaint on the head.

The true practical man is of a very different calibre. He is one who is thoroughly imbued with the spirit of inductive reasoning—who sees in anatomy, healthy and morbid, the elements of all the exactness we can give to medicine—who studies symptoms in reference to such anatomy—and who simply tests the powers of remedies by simple experiments. Men of this description are becoming, we are happy to

say, more common. Among the well-educated members of our profession, they are daily met with. They are the symbols of the new order of things, for a new order of things there is. Such, as Iago says, we do profess ourselves, and to make more and more men in the profession such, we have worked, and, please God, we will work still.

This brings us to the point we aimed at. Is practical information of the description we have mentioned to be obtained by indulgence in disquisitions on abstractions—or in the plain study of plain facts? Suppose a man wishes to become practically conversant with surgery. If he possesses good sound sense, he does not lock himself up in his chamber, and devote night and day to the reading of Rhazes, and Albucasis, and Celsus, and Paré, and Benjamin Bell. No, he goes to the dissecting-room, and he learns anatomy thoroughly, and he also learns the elements of surgery and physic and materia medica, and being thus acquainted with the leading and established facts, he proceeds to the hospital ward and the hospital dead-house. He accurately notes the cases that present themselves, and the symptoms they exhibit. If the patient dies, he reads in the dead body the language of symptoms—if he recovers, he has observed the effects of medicine. This is the course of study which turns out a good surgeon.—Journals should be conducted with a view to the same substantial results. They should collect the facts too widely scattered for individual observation—and they should present those facts, those simple facts, for general perusal and consideration. This is our notion of what a practical journal should attempt, and for these reasons we usually select those cases which can be resolved into useful lessons for the man of much or of little experience. We leave to others the insatiate thirst for novelty, which sometimes gratifies but too often disappoints, and we content ourselves with endeavouring to point out what we think is sound philosophy—close observation, and rigorous reasoning.

The paper we are now to notice is by Dr. Browne, one of the surgeons of Saint Mark's Hospital, and formerly surgeon to the County of Meath Infirmary. It is offered with a view to the elucidation of the surgical pathology and treatment of aneurism. He observes that in both parts of this subject there is still much difference of opinion, and he presents the following facts in order that they may tend, so far as they can, to increase our stock of knowledge. The cases are four in number, and occupy twenty-eight pages of our contemporary. They admit, we trust, of much compression.

CASE 1. *Aneurism of the Posterior Tibial Artery — Scarpa's Operation—Death from Sinuses in the course of the Sartorius Muscle.*

A man, æt. 27, admitted into the Infirmary, Aug. 27th, 1817. On examination, there was found an aneurism of the posterior tibial artery. A round tumor, resembling an orange in size and shape, existed in the centre of the upper and back part of the calf. It was deep seated, lying apparently beneath or in front of the belly of the gastrocnemius muscle; its upper edge was placed nearly three inches inferior to the lower margin of the popliteal space, and it extended downwards and laterally more than two inches in each direction. Pressure on the femoral and popliteal arteries arrested the pulsation, and diminished the size of this tumor. The disease had existed for two months. There was no disturbance of the health, of any consequence.

On the 1st of September, Dr. Browne performed the operation of tying the femoral artery, immediately above the sartorius. Some difficulty was experienced in finding the superior border of that muscle, and it was necessary to turn it outwards. Two ligatures were applied to the artery, on tying which the pulsation in the tumor ceased.

On the 2d day there was such symptomatic fever that twenty ounces of blood were abstracted, and purgatives, &c. were given. On the 3d day the bleeding was repeated On the 10th day, the lower ligature separated, the upper having come away on the 9th. Slight lividity of the integuments covering the

outer ankle, and superficial ulceration between the toes now occurred. The aneurismal tumor was reduced to a small hard substance of the size of half a nutmeg. An abscess now formed in the course of the artery upwards, and a sinus communicated with the wound. The patient got hectic with diarrhœa. On the 36th day an opening was made in the groin. The probe was now found to pass nearly its entire length on the inner side of the sartorius muscle, and deep in the flesh of the thigh: the discharge was very considerable. The hectic symptoms increased, and on the 41st day, the patient died, having previously evinced some features of thoracic inflammation.

Dr. Browne's remarks may be easily summed up. He inquires into the cause of the fatal sinuses beneath the sartorius. He thinks that they depended on an original want of vis vitæ—and he furthermore thinks that the patient's death was occasioned by an aortic aneurism. The reasons for the latter extraordinary conclusion are, that the patient had a vibratory pulse, and that he had pain under the sternum with lividity of countenance the day before he died.

The latter supposition is so unsupported, that it is not worth while arguing it. But we would make this one observation on the cause of the collections of matter. We are not surprised at their occurrence, considering that the muscle was a good deal disturbed during the operation, and that the patient lost forty ounces of blood from the arm within two or three days after it. The two circumstances taken together will present a tolerably satisfactory ground of conjecture to most practical surgeons.

CASE 2. *Diffused false Aneurism of the Popliteal Artery, from Wound by the Sequestrum of a necrosed Femur—Operation—Death.*

A young man, æt. 25, who had laboured under necrosis of the lower third of the right femur for some years, and in whom two fistulous openings discharged moderately, one on each side of the thigh a little above the joint, was induced to dance at a wedding. In the midst of the glee, he felt sudden uneasiness in the thigh, and bleeding took place from each fistulous opening. Some compression was resorted to, but more or less hæmorrhage occurred for eight days, when he was received in the Meath Infirmary, under the care of Dr. Byron.

This gentleman finding that compression on the femoral artery arrested the bleeding, with great promptitude, decided upon tying that vessel in the upper third of the thigh: which operation was performed at the moment, without difficulty, and with the effect of putting an immediate stop to the hæmorrhage. The *vis vitæ*, however, had been previously too far exhausted to allow of salutary reaction, and the limb passed rapidly into gangrene, which quickly extended to the groin, and carried him off in a few hours.

The *post mortem* examination discovered a longitudinal slit nearly one-fourth of an inch long, in the front of the poplitæal artery, close to which lay a jagged portion of sequestrum; this was thin and sharp, and formed a part of half of the circumference of the cylinder of the old bone, the greater portion of which was firmly incased in the new one.

Dr. Browne refers to two similar cases, one related by Dr. Jacob, and the other by Mr. Porter. In Dr. Jacob's case, amputation was performed, and the patient recovered. In Mr. Porter's the operation could not be performed, and the patient died. From various considerations, Dr. Brown considers amputation preferable to the ligature of the femoral artery in such cases, and most surgeons, we think, will feel inclined to agree with him.

CASE 3. *Circumscribed false Aneurism of the Brachial Artery; a high Bifurcation; both Branches tied; the Aneurismal Sac opened; Recovery.*

P. G. æt. 32, a shoemaker, admitted into the Infirmary, Dec. 28, 1824. Four days previously he had forcibly wounded the brachial artery with his knife. Great bleeding occurred at the

time, but was stopped by powerful compression. In forty-eight hours it recurred.

"On examination he was found to have received an incised wound on the inner side of the arm, two inches above the inner condyle, and one inch superior to the bend of the joint. This wound was an inch and a half long, and extended obliquely upwards and outwards; its surface was foul, but partially united, and its edges had been closed by four continuous sutures. To the outside of the wound was situated an aneurism half the size of a pigeon's egg, pulsating strongly and synchronously with the artery at the wrist; and the arm and forearm were swelled to at least twice their usual size, particularly on the fore and inner parts."

By appropriate means the wound was healed, but the aneurism remained. Gentle pressure on it was tried. It caused such irritation of the skin that the latter sloughed, and on the separation of the slough, hæmorrhage ensued. The following was the condition of the parts. The cavity of the aneurismal sac was exposed by an opening the size of a shilling, the sac itself being apparently as large as a common sized poppy head; there was considerable hardness and thickening of parts in the line of the brachial artery, extending up the arm for one hand's breadth above the sac; no pulsation was discoverable at the wrist, and the limb retained its natural temperature. The brachial artery was now tied above the tumor. Hæmorrhage issued from the latter on slackening the tourniquet; there was a high bifurcation. The second arterial trunk was tied; this did not stop the hæmorrhage. The following particulars are deserving of extraction without mutilation.

"The discharge of arterial blood having been altogether uninfluenced by these measures, it was determined to incise below the sac, and endeavour to tie one or both branches of the bifurcation, as might be found necessary. Accordingly, an oblique incision was made on the inner side of the arm, immediately below the sac, carried outwards two inches, and subsequently made angular, by giving it a direction towards the biceps tendon. The veins and nerves were exposed, and the artery sought for without success, and in the course of these efforts the sac was opened below.

During the continuance of the recent operation, the tourniquet had been occasionally loosened, as the size of the opening in the sac enabled the thumb, assisted by a compress of lint, to command the bleeding; it was then, however, tightened, and the finger passed into the sac. That cavity was found to be of an extent considerably larger than had been supposed; it extended two inches in the direction of the external hardness, and three inches to the outside of the biceps tendon; altogether it might contain four ounces of coagula.

As the sac had been exposed, and the second opening made into it, and as there seemed no prospect of finding the wounded vessel below, it was deemed right to throw both wounds into one by a suitable incision. This having been done, the brachial artery was discovered lying at the bottom and middle part of the sac, and in the centre was an opening or slit, half an inch in length, extending longitudinally, from which blood issued with the same freedom as before on the tourniquet being relaxed.

The artery was considerably enlarged, nearly to twice the usual size, and its coats much thickened, particularly superior to the opening which had been made into it: inferior to this aperture its condition was more healthy, and one inch below it its state was altogether normal. At that point, therefore, (a little dissection being previously required to bring it into view,) a double ligature was applied upon it.

This measure, though it materially checked, did not arrest the hæmorrhage, for an oozing of florid blood still continued from the opening in the artery on relaxing the tourniquet. It was deemed prudent, therefore, to include the thickened portion of the vessel lying in the sac in a ligature, which was accordingly done, two inches superior to the opening in it, and then only did the bleeding cease.

The sac did not extend quite an inch below the wound in the artery, although it reached more than three inches above it; its orifice was lightly filled with charpie, and the other wounds were brought together by adhesive plaster. Compresses of lint and tow, with a flannel roller, were applied over all, after which he was put to bed, and got thirty drops of tincture of opium, being directed to keep quiet and live low."

After this all went on well. On the fifth day, the surface of the exposed sac was granulating. On the eighth day there was feeble pulsation in the right radial artery in the wrist. On the 12th day all the ligatures came away; the cavity of the sac appeared obliterated. On the 15th day, slight pulsation in the right ulnar artery. On the 43rd day, the wounds were all healed, and on the 47th day the patient was dismissed. He then possessed nearly the full use of the limb. A strong pulsation was discovered in the profunda superior artery.

This is undoubtedly an interesting case. In aneurism at the bend of the arm, from puncture of the brachial artery, or of the radial or the ulnar, supposing a high bifurcation, two operations are open to the surgeon. Either he may perform the Hunterian operation for aneurism, and tie the artery above the tumour, or he may adopt the old operation—cut into the sac, expose the orifice of the vessels, and secure the latter above it and below it. Some authorities are in favour of the one, some advocate the other operation. We conceive that the rule of practice is clear. If pressure on the brachial artery, or on either or both of its branches, in the case of a high bifurcation, satisfactorily arrests the pulsation in the trunk, the surgeon should give his patient the chance of the ligature of the vessel in the arm. We have the experience of Mr. Colles in favour of this rational and moderate practice. With him, it has been highly successful. If, however, pressure in the artery in the arm does not sufficiently control the pulsation, &c. in the aneurism, or if the operation we have mentioned fails, then the surgeon must cut into the aneurismal tumor, and proceed in the ancient manner.

The case before us was complicated. It is not impossible, nor, indeed, improbable, that if the operation of tying the artery in the arm had been performed, instead of using pressure, and producing an opening by sloughing into the aneurismal sac, it is not, we say, improbable, that a cure might have been effected. For the sac having partially sloughed, the case became analogous to one of wound, rather than to one of aneurism. In an aneurism, the simple retardation of the current of blood appears to be equal to effecting coagulation in the sac: but, in a wound, that would be quite insufficient to arrest the hæmorrhage from a large artery. We can, therefore, readily understand, that tying the artery above the tumor would cure traumatic aneurism, under ordinary circumstances, at the elbow, but would fail to cure it if the aneurismal sac was laid open. The case, we repeat, is one very worthy of the attention of practical surgeons.

CASE 4.—*Aneurismal Varix at the Bend of the Arm—Cure by a Bandage.*

A healthy labourer was admitted into St. Mark's Hospital, March 29th, 1830, for aneurismal varix of the left arm.

"The median basilic vein was dilated to about the same extent as we observe it to be when ordinary venesection is going to be performed; and the pulsations of the artery beneath it, accompanied by the peculiar thrilling sensation, resembling the noise produced by the wheel of a watermill, were distinctly and strongly perceptible both to the ear and to the touch. This thrill extended for at least an inch all round the site of the original puncture, and could be removed by moderate pressure on the vein, without the pulse at the wrist being interrupted.

Slight hardness existed in the situation of the wound in the artery, particularly towards its outer side, accompanied by yellowness of the skin along the inside of the arm; and the forearm could not be flexed beyond a right angle, nor extended perfectly."

He had been bled six days previously.

The blood flowed "per saltum," but was easily checked. Next day there was much ecchymosis, and a small pulsating tumor was observed under the orifice. In three days the orifice healed.

Under the direction of Dr. Browne, a compress of lint, wet with lotio plumbi acetatis, was applied over the tumor, which was kept in its place by a roller, carried around the forearm and elbow; and some ordinary purgatives were directed. Digitalis was added afterwards. The compression and the latter remedy together effected so complete a cure, that, on the 12th of April, the patient was discharged cured. The arm was in a natural state, the vein of its usual size, and the artery felt beating beneath it, without increased strength in its pulsations, or any surrounding hardness.

We subjoin the following remarks.

"Aneurismal varix, at the bend of the arm, according to the opinions of the most approved authors, usually progresses in three several ways, viz. 1st. in the majority of instances the tumor, after attaining a certain moderate size, remains stationary, and, with ordinary care, and the avoidance of unusual exertion of the member, continues to be free from either danger or inconvenience during the rest of life. 2dly. Either from over-exertion or improper treatment, the cicatrix formed between the wounded artery and vein gives way, blood is effused into the intermediate and surrounding cellular tissue, and a varicose aneurism is eventually produced. 3dly. By careful and gradual compression,more particularly in young subjects, adhesive inflammation may be excited, by which the orifice of communication between the artery and vein becomes closed, the varicose swelling removed, and one or both of these vessels obliterated at the place; most usually the vein, but often both vein and artery.

Few surgical practitioners, however, are aware, I believe, of the fact, that an aneurismal varix may be radically and perfectly removed, all the tissues concerned in its production being restored to their original integrity, as occurred in the case which I have detailed.

But a termination so favourable must be deemed a rare event, and to account for it we must presume, that just so much lymph was effused as sufficed to agglutinate the lips of the wound in the artery, without being secreted in a quantity great enough to endanger the obliteration of its canal.

That the gentle pressure of the roller contributed to this effect is probable; but we must not forget that such an agent has been reprobated by authors, as giving rise, on several occasions, to the second termination of the disease which I have noticed, namely the formation of a varicose aneurism; it should, therefore, be used cautiously, ane its effects carefully watched."

The preceding cases merit the perusal of our readers.

ST. THOMAS'S HOSPITAL.

SYPHILITIC ERUPTIONS TREATED WITH HYDRIODATE OF POTASS.

Our readers are aware that the experiment of treating several forms of syphilitic secondary symptoms, by preparations of iodine, has been lately made. We have noticed the observations on this subject that have been, from time to time presented to the public, and we have watched with some small degree of curiosity, the amount of faith placed in the medicine. In the reports of St. Thomas's Hospital, edited by Mr. South, we find five cases of secondary eruptions, treated with hydriodate of potass. These cases we shall notice separately.

CASE.—*Roscola Syphilitica.*

"Joseph Lawrence, æt. 17, tailor, admitted June 19th, 1834. Of rather intemperate habits. States that, about eighteen months since, he had a chancre on the penis, and a bubo in each groin; for which he took mercury, and his mouth was kept sore for someweeks. Under this treatment, the chancre

quickly healed and the buboes dispersed. About a month after the sore had healed he was attacked with sore throat, pains in his limbs, and an eruption of a pustular kind, appearing chiefly about the legs: in consequence of which he was admitted into the hospital, under Dr. Williams' care, and remained there for five months; during which time several pieces of bone came away from the nose and pharynx. He was treated with hydriodate of potass, and left the hospital quite well. About a fortnight or three weeks after, however, the pains in his limbs returned, the throat again became sore, the nose swollen, and a piece of bone in progress of separation, when he was re-admitted.

He complains of great pains in the limbs, which increase so much at night as to prevent his sleeping. His tonsils are red and swollen, and each has a large deep sloughy ulcer upon it, accompanied with slight superficial ulceration of the back of the pharynx. He has upon his back an indolent ulcer with a dark coppery-coloured margin, which is the remnant of an old pustule. The testicles are painful and tender. These symptoms are accompanied with slight constitutional fever; he is usually thirsty, has a furred tongue and bad appetite, and sometimes perspires much at night. *Ung. hyd. nitr. Oxid. gutturi applic.*

June 21. Much the same. *Garg. acid. mur.*

July 5. Throat much improved: the pains in the limbs much the same. An eruption of an exanthematous character has made its appearance, chiefly about the arms, breast, and insides of the thighs, consisting of patches, small, separate, and of various figure—not much unlike measles or scarlatina, in some places being somewhat elevated and accompanied with slight itching and smarting: it is of a hepatic brown colour, and becomes much more distinct on rubbing the part. ℞. *Pot. hydriod.* gr. viij. *ex Mist. camph. ter die.*

July 11. The pains are less severe. He has a considerable discharge of yellow mucus, tinged with blood, from the nose, for which he was ordered to inject *Lot. hydr. cin.*

July 15. Pains considerably diminished, and he now sleeps well at night. The eruption is not quite so fresh, but is still visible about the chest and arms. *Potass. hydr.* gr. x. *ter die.*

Under this treatment he continued improving, and by

Sept. 20. The throat was nearly well and the pains trifling.

Oct. 1. His throat is now well: the eruption has disappeared, and the pains in his limbs have entirely left him. But a little discharge from the nostrils continuing, he remained in the house till

Oct. 14, When he was discharged perfectly cured."

We could not beneficially abridge this case, on which we have some remarks to offer. We pray our readers to mark these particulars. A patient has an ulcer, for which his mouth is kept sore for "some weeks." In a month after the sore heals, he is attacked with sore throat and pustular eruption. He is treated with hydriodate of potass, and after *five months*, and the separation of pieces of bone from the pharynx and the nose, he is reported to be cured. Immediately after this recovery, he is again as bad as ever, and so he goes on for *eighteen* months, when he has sloughy ulcers of the throat, and a cachectic ulcer on the back. He is again in the Hospital for *four* months, again treated with hydriodate of potass, and again dismissed with the ticket of "cure."

We must say that this case carries any thing, to our minds, but evidence in favour of the hydriodate of potass. The symptoms were evidently of that mixed character, which results from the injudicious use of mercury in the first instance, in a patient whose constitution is impaired by intemperance. Such cases are usually tedious, and always troublesome, yet we venture to say that well-regulated courses of sarsaparilla, alternated with purgatives and with other tonics, and conjoined, now and then, with some mild form of mercury, as the hydrargyrus cum cretâ, or the oxymuriate, in very small doses, for ten days or a fortnight at a time—we

venture to say that, after the lapse of *twenty-two months*, the patient would have been more permanently well than, in this case, he probably is.

CASE 2.—"*Purpura Syphilitica.*"

Isaac Gower, æt. 19, admitted Sept. 4. 1834. "He states that about six months ago he had gonorrhœa accompanied with chancre on the penis, but no buboes. He got well in a fortnight without mercury. Three weeks after, however, pains in the limbs supervened. affecting chiefly the knees, legs, and ankles, which were tender. An eruption broke out soon after, which continued more or less till his admission.

He now complains of severe pains in the limbs, more especially in the legs and large joints, aggravated at night so as to interfere with his rest. The periosteum on the tibia is tender, but not thickened. The eruption consists of small distinct specks, or patches, occupying chiefly the arms, breast, and legs, but especially the fore-arm. These spots are of a hepatic or dark coppery colour, of various size, from the most minute point to that of a flea-bite, and commonly circular. They are not accompanied with any visible elevation of the cuticle, nor are they attended with any itching. A few spots of a vesicular and pustular character are scattered about the chest, arms, and legs. He complains of slight sore throat, and the tonsils are rather swollen. He is somewhat feverish, being thirsty, and having his tongue slightly furred. ℞. *Tinct. Hyosciam.* ʒss. *ex Mist. Camph. ter die.*

Sept. 18.—The feverishness and sore throat have subsided, but in other respects he is much the same. ℞. *Potass. Hydriod.* gr. viij. *ex Mist Camph. ter. die. Ol. Ricini* ʒss. *p. r. n.*

Sept. 30.—Much improved. The pains have so much subsided that he is able to get a good night's rest. The spots are fading, their edges being not so well defined as before, and there is no fresh eruption.

Oct. 10.—Pains in the limbs entirely subsided. The eruption is nearly unaltered since the last report, but a few tubercular spots have appeared on the chest and arms.

He continued gradually improving without any change in the treatment up to

Oct. 27.—When he was presented cured, a slight trace of discolouration only remaining in one or two places."

We do not exactly understand why this should be termed "purpura syphilitica." Purpura is a term which is applied to extravasations of blood in the cutis, and we presume there were none in this patient's case. But the name does not much signify, if the thing is understood. We prophecy that in this instance there will be a return of the symptoms; we have not a doubt of that. The experiment is not worth a farthing; for the patient should have been kept in the hospital or if not kept in the hospital watched, for many months after the fading of the eruption. Patients with lichen and even with tubercle will, under salines and the most simple treatment, present quite as much amendment as this patient did. Nothing is more common. But then after a period other symptoms are developed—fresh ulcers in the throat—fresh eruption on the skin. We repeat that this case proves nothing.

The third case was one of "Lepra Syphilitica." The patient was in the house for a week, and left it "improving." This proves nothing neither.

CASE 4.—*Rupia Syphilitica.*

G. Toovey, æt. 27, an intemperate man, admitted Oct. 23, 1834, "states that about four years ago he had gonorrhœa and chancre on the penis, accompanied with bubo in each groin, which continued for some months, but subsequently were cured with mercury, his mouth having been made sore for a fortnight. With the exception of occasional pain in the left shoulder he continued apparently quite well till seventeen weeks since, when an eruption broke out on the legs, arms, and back, appearing at first like small vesicles, which gradually extended, breaking into large scabby sores, and afterwards healed, leaving the skin of a deep livid colour for some length of time. Other sores, however, quickly supervened. The eruption was accompanied with great pains in the limbs, more es-

pecially in the larger joints and shins, which were much aggravated at night. He has taken great variety of medicine for this affection, of which mercury formed the largest proportion, but without benefit.

When admitted he complained of severe pains in the limbs, especially in the legs, and also in the joints of the left wrist, knee, and great toe, which were rather tender. The periosteum of the left tibia is thickened, and extremely tender. The pains increased towards night, and prevented him from getting sleep. The eruption is principally about the legs, thighs, arms, and back: it consists of spots or patches of irregular incrustations, for the most part circular, and varying in size from that of a split pea to that of a half-crown. Some are of a conical shape, but more commonly, however, the scales are thin, superficial, and easily rubbed off, slightly inflamed at their base with a very narrow areola of a copper colour. Several blotches of a deep livid colour, the remains of old sores, are scattered over the body; but there is no appearance of the eruption in its primary or vesicular stage.

He has no sore throat, but says he has occasionally passed great quantities of blood by stool; at times, also, there has been a discharge of bloody mucus from the nose accompanied with pain, but the nose is neither swollen nor tender, nor have any pieces of bone come away from it.

His health is much broken up; he is very hot about night-time, and perspires largely towards morning: tongue coated with a whitish fur, and red at the tip: mouth still sore from the use of mercury. ℞. *Potass. Hydr.* gr. viij. *ex Mist. Camph. ter die.*"

He gradually improved till the 20th of November, when the report states that he had scarcely any scabs, but several patches of a deep livid colour. The periosteum on the left tibia was still tender and painful. His health was much recruited. On the 25th of December he was discharged.

Nothing can be more deceptive than reports of this description. Patients labouring under rupia, or other cachectic symptoms, when received into a hospital and well clothed, well housed, and well fed, and, medically speaking, well attended to, almost invariably improve greatly. We have again and again seen patients admitted into the Lock Hospital with rupia, get rid of the scabs, and get fat and well under diet alone. But that is not a cure—far from it. The patients are dismissed apparently recovering fast or recovered. They generally have a relapse in a very short period. The treatment of rupia and the secondary symptoms allied to it, is one of the most interesting, and, at the same time, most complex problems in the management of the venereal disease. Of one thing we are certain from experience, that iodine does not cure it. So far ae we have seen, iodine, in some of its forms, is of more service in this than in the other forms of secondary syphilis. We have to ring the changes on many remedies, while we steadily keep in view the improvement of the health. Iodine is one of the many. Small doses of mercury—steel—arsenic—iodine—all are of service in their turn. The *great* remedies are small doses of mercury and courses of sarsaparilla.

CASE 5. *Syphilitic Lichen.*

John Cushion, ætat. 26, a seaman of intemperate habits, admitted Nov. 13, 1834. Had gonorrhœa and sores seven weeks before his admission. For these symptoms he took only salts. In a fortnight the primary symptoms were removed, but pains in the limbs, followed by eruption, came on.

When admitted, a papular eruption was observed over the whole body, especially on the arms, thighs, legs, and chest—in some parts distinct, but in others in small clusters. Some had the appearance of small tubercles or acné: others on the arms and chest, were more acuminated; while a few spots appeared obscurely vesicular. All were surrounded with a base of deep hepatic hue, and somewhat inflamed. He did not complain of itching, bnt there was a smarting sensation, or rather a heat in the part. He had severe pains in the limbs which prevented his sleeping: the right tibia was very painful, and

the periosteum thickened and tender, more especially about the junction of the middle with the lower third of the bone. The left leg was much swollen and œdematous, and had an irritable ulcer both on the fore and back part, the result of a burn: both were somewhat swollen and tender. Both ulnæ were swelled and tender. And he also complained of tenderness over the whole skull. The left eye was dull, weak, and bloodshot; but there was not much intolerance of light, and little if any pain: the palpebral linings were rather more vascular than usual, and there was an increased secretion from the tarsal glands which were rather enlarged: the vessels of the ocular conjunctiva were injected with red blood, and the eye had a remarkably dull and muddy appearance: the papillary margin was irregular, but the iris still retained its brilliancy. The tonsils were rather enlarged, and the scars of old ulcers very distinct. He was very feverish, complained of a burning heat over the whole body soon after getting into bed at night, which was followed by profuse perspiration towards morning: his skin hot and dry, and tongue coated with a white fur. ℞. *Potass. Hydriod.* gr. viij. *ex Mist. Camph. ter die.*

By the 20th of November the eruption was beginning to fade and desquamate. Soon afterwards more general improvement took place. On the 25th of December we are simply told he was presented.

Again, we must make this remark—that the case is totally valueless as evidence of the cure of syphilis by hydriodate of potass. Every body knows that mere salines and antiphlogistic remedies will remove lichen for the time. The hydriodate of potass may do the same thing. But that is not the cure of syphilis. These patients should be kept in hospital for some months, and watched. Then, and not till then, the experiment would be of worth. At present it must go for very little. We think it a duty to state these circumstances, and bring the true state of the case before our readers. Practitioners in the country, whose opportunities of observation are necessarily limited and desultory, are apt to be misled by the flattering accounts of the effects of many remedies that appear in the weekly Journals. We conceive we are called on to do our best to set the matter in its proper light, and to enable our readers to estimate these newly-introduced remedies at something like their real value.

ST. GEORGE'S HOSPITAL.

CONTINUED FEVER.

The necessity of a profound acquaintance with the pathology of fever is soon felt by the physician or the general practitioner when engaged in practice. Cases of fever are those which frequently perplex him most, disappoint the expectations of his judgment, and baffle the resource of his art.

Independently of the vexata questio of the proximate cause of this disease, it is impossible to deny that modern anatomical researches have done a vast deal towards correcting our notions and guiding our treatment of fever.—Whether structural alteration does or does not constitute the initiative of fever, is practically a matter of little consequence. We now know that such alterations soon become developed, maintain the disease, and either retard the patient's recovery, or occasion his destruction. The opponents of morbid anatomy may believe, that the leisons of fever are comparatively unimportant, and may seek in their hocus-pocus doctrines the simple explanations that the scalpel gives. Let it be our's to ascertain by a comparison of symptoms and pathological appearances, the periods at which structural changes are developed, their characters and nature—let us ascertain this, and apply our knowledge in diagnosis and in treatment.

What an outcry was raised against those who looked for a local cause of fever. That they went too far, as fresh inquirers usually do, must be admitted. But they have succeeded in revolutionizing our notions and treatment. We have ceased to look upon typhus as a

thing emblematic of debility and putridity, and so forth—we have tired of watching for critical days and critical demonstrations—we have ceased to cram people with bark and wine, because their tongues were brown, and themselves half comatose—those good old days and good old notions are for ever gone—and we look for alterations in the head, the chest, or the abdomen, to account for those symptoms which our forefathers, in their pathological ignorance, erected into substantive complaints.

We say that the physician, after the first few days of fever, begins to watch with painful anxiety for signs of structural changes in the head, the chest, or the abdomen. There can be little doubt that the latter are the more frequent and the more important. As a general rule, they are ulcerations of the mucous membrane of the intestines, originating usually in the glands of Peyer, and situated commonly at the lower portion of the ileum. From them the practical and well-informed physician watches, as the most frequent, and, perhaps, the most insidious of the organic lesions of fever.

The following cases selected to illustrate this point, are taken from a clinical report published by Dr. Aldis.*

CASE. *Continued Fever—Abdominal Tenderness—Cure.*

Ruth L., æt. 29, single, Sussex, admitted, *May 22d*, 1833.—Pulse 120, small; skin hot, face flushed; tongue furred in centre, red at edges; urine free; catamenia obstructed; does not recollect when they ceased.

Complains of tenderness of the abdomen; no pain in the head; lips parched; great prostration of strength; much thirst; deafness; abdomen very hard.

Ailing a fortnight; illness commenced with shivering, followed by heat. Had variola six months ago.

The treatment was a dose of calomel followed by a black draught and by salines. The bowels were freely opened, and the motions were liquid and of a light yellow colour. On the 24th, the abdomen was tense and hard, and the face was flushed. The calomel and black draught were repeated, and the vin. ant. t. was added to the salines. On the 27th, the tongue was still loaded in the centre—bowels open—pulse 88, soft. On the 29th, the abdomen continuing hard, a dose of blue-pill and castor-oil were ordered. From this time she improved; cascarilla was given and borne—and on the 10th of June, she was reported cured.

This case is as good an example as any of continued fever in a mild form. The abdominial tenderness and hardness shewed the disposition to affection of the mucous membrane of the bowels, which, in the next case, we find terminating in ulceration.

CASE. *Continued Fever—Hæmatirrhœa—Death—Ulcerations of the Bowels.*

Hannah B. æt. 24, admitted Feb. 2, 1832, in a state of heaviness and slight stupor, with some deafness, flushed countenance, and hot skin. Did not acknowledge any pain, except in the loins and legs. Was stated by her friends to have been confined to her bed for nine days, in much the same condition; but had complained of general illness, with occasional chills, for a week previously. Within a few days she had occasionally passed blood by stool. Has been bled, and had leeches applied to the temples: was ordered,

Hyd. c Cretâ, gr. vj. *Pulv. ipecac. c.* gr. iv. *sextis h. sum. superbibendo haustum Salinum. Olei ricini*, ʒss. *cras.*

4th. Is lying on her back, with the legs extended, in a tranquil state; breathing accelerated and somewhat stridulous. Pulse 144, not hard; skin hot and dry; lips parched and glazed; tongue moist, but covered with brown fur. Is somewhat deaf, but quite conscious when spoken to, and answers questions correctly. Is stated to have been delirious and noisy during the last two nights. Heaviness in the head,

* An Introduction to Hospital Practice, &c. By C. J. B. Aldis, M.A. M.B. &c. &c. Octavo, pp. 125. London, 1835.

but no pain; pupils contracted; considerable pain on pressure of the abdomen, particularly in the left iliac region. Several bloody stools have been passed since admission; but she had one motion this morning, very offensive, without blood. There is some dulness on percussion throughout the left side of the thorax, with corresponding feebleness of respiration, which is quite puerile in the right lung In the afternoon leeches and a blister were ordered to be applied to the abdomen. The dose of *Hyd. c Cretâ* was increased.

Detrahatur urina hac nocte nisi prius sponte defluat.

Was very noisy during the night. Has had two motions, of dark colour, containing a quantity of dark blood. Respiration accelerated, and attended with the mucous râle, very abundant in both lungs, most so in the left. Face, lips, and hands purple; skin cold; pulse scarcely perceptible, fluttering.

Sectio, 17 Hours post Mortem.—Head. Considerable increased vascularity of the pia mater, without opacity of the arachnoid or effusion beneath it. No effusion, or if any, very slight, into the ventricles.

Chest. No adhesion between the right pleuræ; a very firm attachment of the posterior portion of the lower lobe of the left lung to the parietes. This portion of lung was found consolidated and infiltrated with black blood, several smaller spots of effusion being also found in the upper lobe. None in the right lung. The bronchial membrane of both lungs was extremely turgid, and of a reddish-brown colour, with a quantity of frothy mucus in the larger, and muco-puriform matter in the smaller ramifications. These appearances were more remarkable in the left lung. The heart rather soft, and left ventricle somewhat thinner than usual.

Abdomen. There were several large circular ulcerations about the ileum and upper part of the colon. The mesenteric glands were enlarged.

Dr. Aldis observes, in a note, that it is of consequence to attend to the condition of the bladder in cases of fever. Patients, particularly if oppression exists about the brain, are incapable of properly appreciating or mentioning the circumstance, and the bladder may become excessively, indeed injuriously distended. We have seen this occurrence ourselves, and its liability should be borne in mind by practitioners. The preceding case is a very good example of the lesions of fever. The patient dying on the 18th day, we find ulcerations of the mucous membrane of the ileum and colon, and irregular congestions in the lungs. The lesions of the lungs in fever are certainly not so important as those of the brain, and the lesions of the latter are of less consequence than those of the mucous membrane of the intestines.

Some cases of fever are related, in which pulmonary congestion was present. But there is not any thing about these cases requiring particular remark. In the next case there was observed a circumstance that now and then occurs.

CASE 3. *Continued Fever—Eruption of Furuncles—Death.*

James P., æt. 22, groom, Westminster, admitted July 17th, 1833.—Pulse 86, soft; skin warm and dry; countenance sallow; tongue slightly furred, red at the tip, moist; bowels much relaxed, hæmatirrhœa; urine free, clear.

Cough, slight expectoration; sweats at night over the head and chest. Dulness on percussion over the apex of each lung, but more so on the right; also at the lower lobe of the left under the axilla.

Was attacked two months ago with the Influenza, and expectorated blood, from which he was convalescent; on Sunday rode twenty miles, since which he has been attacked with more fever.

Has been bled and leeched.

℞. *Hydrarg. c Cretâ*, gr. iij. *Pulv. ipecac. c.* gr. ij. *quartis horis. Emplast. canthar. pectori. Dieta lactea. Haust. sennæ cras mane.*

On the 18th, he was ordered calomel, black-draught, and leeches to the temples. He was, and continued to be, delirous. There was much abdominal tension and tenderness over the ileum.

On the 21st, the bowels were greatly relaxed, and an aromatic draught was given.

22dn. Bowels more quiet; pulse soft; was very delirious last night, but more composed this morning.

Rep. Calomel. octavis horis tant. P.

24th. Mouth not sore; was hot and feverish yesterday, when the aromatic mixture was ordered to be discontinued.

26th. Feels much more comfortable; pulse 80, full and soft; skin hot; tongue slightly furred; bowels open yesterday; abdomen hard; mouth sore.

Garg. aluminis.—Sumat. Pil. Calomel. o. n.

℞. *Haust. sennæ cras.—Haust salin.* c̄ *Vin. ant. tart.* ℥xx. *sextis horis.*

29th. An eruption of furuncles in various parts of his body; pulse frequent; tongue slightly furred; appetite improved.

℞. *Infus. rosæ, c.* ʒjss. *Quin. sulph.* gr. jss. *ter die.—Ext. coloc.* c. gr. x. *alt. noct.*

30th. Became very hot and feverish, and his bowels much relaxed, for which the quinine was discontinued, and he was ordered,

℞. *Haust. salin.* c̄ *Conf. aromat.* ℈j. *quartis horis.*

After this a sloughing ulcer formed on the sacrum—he became more and more low, and on the 5th of August he died.

Dissection.—Head. The ventricles of the brain did not contain more fluid than natural. In the base of the cranium, there was a great quantity of bloody serum.

Thorax. The substance of the lungs appeared healthy; they did not, however, collapse when the cavity of the chest was opened. There was very extensive effusion of bloody serum in the left cavity of the chest. The right contained fluid, though considerably less in quantity. The inferior portion of the pleura of the left side was united by firm adhesions. The right auricle of the heart was filled with coagula, the left ventricle quite empty, and hypertrophic.

Abdomen. The liver was healthy, spleen rather soft, of a darker colour than usual, with two ulcerations on its surface. The small intestines were very much distended with air, and contained a quantity of fluid; they were of a very dark colour, and had sphacelated spots upon them. The lower three-fifths of the ileum were very much ulcerated; the edges of the ulcers not thickened; perforation of the intestines nearly completed in two or three places.

We must say that we doubt the safety of such purgatives as calomel and black draught in fever, after the earlier stages. We do not see on what principle they can be recommended. A patient has ulceration of the mucous membrane of the bowels. Is it likely that violent purgation, stimulating and disturbing an ulcerated surface, can be beneficial or even safe? God forbid, that were our own bowels ulcerated, we should swallow calomel and black draught. The milder forms of mercury, for example the hydrargyrus c̄ cretâ, combined with small doses of Dover's powder and rhubarb, and castor oil or aromatic aperients with henbane—such are the remedies which reasoning would recommend, and which practice and experience sanction. Purge a patient smartly at the commencement of continued fever, but after it has continued for some days, and especially if blood is mixed with the stools, beware of *purging* him further. Keep up the secretions, but do not *purge*, for drastic purgatives are decidedly dangerous.

CASE 4. *Chronic Peritonitis from Perforation of the Intestines.*

Elizabeth D., æt. 28, single, admitted *Feb. 20th*, 1833.—Complains of diarrhœa, accompanied with pain in the bowels after every motion: the abdomen is very painful to the touch, sometimes feels hard; has a slight dry cough; is very much emaciated; catamenia obstructed five months; tongue moist; urine clear but scanty. Last July had an attack of bilious vomiting, since which time she has become much thinner. In November last the diarrhœa came on, which has continued to the present time with very little improvement.

March 14th.—Died 4 o'clock A.M.

Sectio.—*Chest.*—The lungs were found to be perfectly healthy; rather more fluid than usual in the pleural cavity; the heart was very small, but apparently healthy.

Abdomen.—The liver was of its natural size, very pale. The peritoneum was very much thickened, universally adherent, and in some parts tuberculated. The large and small intestines were firmly glued together by very strong adhesions. An extensive abscess was found within the cavity of the peritoneum, which communicated by several large ulcerated openings, surrounded by hard thickened edges, with the ilium; much ulceration round the ileo-cæcal valve, and also at the sigmoid flexure of the colon. The peritoneal coat of the small intestines, as well as the mesentery, was studded with Baron's tubercular accretions. The mesenteric glands were much enlarged by a scrofulous deposit.

It is by no means certain this was really a sequela of continued fever. It is not evident to our mind, that the disease may not have originated in the peritoneum.

Perforation of the intestine is well known to occur sometimes in fever. The ulcerations of the mucous coat involve the muscular, and at last peritoneal. The patient suddenly complains of most intense abdominal pain—extreme collapse rapidly takes place—and death speedily occurs with all the symptoms of violent peritonitis. The contents of the bowels are found to have escaped into the peritoneal cavity, and to have given rise to the inflammation of the membrane. Such are the usual characters of these cases. With the following extract from Dr. Aldis's work, we conclude the present report. The author presents a resumé of the pathological changes that the organs undergo in fever.

"*Head.*—Increased vascularity of the membranes of the brain, with serous or purulent effusions. Opacity and thickening of the arachnoid. Sometimes minute red spots are found in the substance of the brain, when vessels are cut through, distended with blood. Sometimes the veins connected with the brain are very turgid. Fluid in the ventricles. Effusions of coagulated lymph.

Chest.—The lungs may be full of blood, or frothy serum. In a subsequent period they become condensed from a deposition of coagulable lymph. The trachea and bronchi may exhibit patches of ulceration. These pulmonary obstructions will account for the lividity of the countenance, noticed in some cases of fever.

Abdomen.—Congestion and ulceration of the intestines. The progress of the ulceration has been previously described.

The following is a tabular view of the result obtained by M. Andral, from an examination of 71 cases, given in his work on fevers:—

The stomach presented ulcerations in	10 cases.
Duodenum	1
Jejunum	9
Ileum (its lower part) . .	38
Cæcum	15
Colon, Ascending	4
——, Transverse . , . .	11
——. Descending	3
Rectum	1.

It is a question, whether this appearance of the mucous membrane of the intestines precedes, or is a consequence, of fever.

Symptoms of Perforation of the Intestines.—If the patient is able to describe his symptoms, he complains of sudden and very acute pain in the abdomen, succeeded by vomiting. The pain continues with great severity in consequence of partial and then general peritonitis supervening. The pulse is small.

The *Mesenteric Glands* are found enlarged in consequence of the absorption of the irritating discharge from the ulcers. The absorbents proceeding from the ulcers to the glands are sometimes filled with matter.

I have never seen any remarkable alteration in the *Liver*. The *Spleen* is occasionally very much enlarged, or softened, having a pulpy appearance. It is sometimes very hard.

The *Blood* may be very dark and fluid in the arterial trunks."

PENNSYLVANIA HOSPITAL.

SURGICAL REPORT. By Dr. KIRKBRIDE.

The report from which we shall extract or notice the succeeding cases is contained in our valued Transatlantic contemporary, the American Journal of the Medical Sciences for May of the present year.

CASES OF DISLOCATION AND FRACTURE.

CASE. *Dislocation of the Head of the Os Femoris downwards and backwards.*

James C., æt. 35, a very muscular labourer, admitted at noon of the 23d of January, 1835. One hour previously a roof fell in upon him. He thought that his right thigh was at first separated from the other, and that then his whole body was pressed flatly to the earth.

On admission, the dislocated thigh was flexed upon the pelvis, and rested upon the uninjured one; the leg was flexed upon the thigh; the knee was below its fellow; the toes turned inwards; the back of the foot, over the origin of the metatarsal bones of the injured side, rested upon the anterior part of the hollow of the tarsus of the opposite limb; the limb could not be extended, and the attempts to effect it produced excruciating pain; the point over the acetabulum was more depressed than natural; the head of the bone was thrown downwards and backwards, and with the trochanter major could be felt with perfect distinctness moving under the fingers when attempts were made at rotation. The head of the bone appeared to rest upon the posterior part of the body of the ischium, between its tuberosity and its spine. The distance between the trochanter major and the anterior superior spinous process of the ileum, was one and a half inches more than on the sound side. The muscles about the joint, and those of the thigh, were thrown into spasmodic action by all attempts at motion. The patient was unable to lie upon his back, always choosing the sound side, with the injured knee resting on the bed. He was bled to 32 ounces, and put on the solution of the emetic tartar. At half-past eleven, a. m. of the next day, he was placed upon the table, and the pullies applied in the ordinary manner; great difficulty however was experienced in securing the extending band above the knee, owing to the shape of the thigh, and the large body of muscles at the part. Some extension was made however, and at the same time it was attempted to lift the head of the bone from its position, by raising the whole thigh. A second attempt at extension was now made, but the bands slipping, as they did before, they were removed entirely, with the intention of making the attachment at the ankle; at this juncture it was observed that the form of the hip had changed; the toes were turned outwards: the limb could be extended, and rotation performed; in fact it was discovered that the reduction had been effected. Neither the patient nor attendants were conscious of the moment when the reduction took place; no sound was heard, nor any particular motion observed. The patient suffered scarce any pain during the operation. At first there ensued loss of sensibility and motion in the limb, but it gradually recovered both.

Dr. Kirkbride, in his observations, recapitulates thus the essential symptoms of this rare, and hitherto undescribed dislocation. Those symptoms are as follow:—the position of the thigh across the sound one, the flexion of the leg upon the thigh, the lengthening of the limb, which could not have been less than one inch, proved by the position of the knee below its fellow, and by that of the foot of the injured side under the sound one, the increased distance between the trochanter major and anterior superior spinous process of the ileum, (one and a half inches,) the difficulty of making rotation, the impossibility of producing extension, and the facility with which both the head and trochanter could be felt, particularly the last of these facts, are points sufficient to indicate with precision the locality of the head of the bone, as being upon the posterior part of the body of the ischium, between its

tuberosity and spine, and distinguishing it from all other dislocations of the joint. The paralysis too, (which was probably owing to the unnatural situation into which the sciatic nerve was thrown,) was more complete than is usual, and of longer continuance.

Dr. Kirkbride refers to two analogous cases—one published by Mr. Keate, senior surgeon to St. George's Hospital, the other by Professor Warren of Boston. Mr. Keate's case is very interesting, and as it is short, we shall insert it here in connexion with the case before us.

"I was called," says Mr. Keate, "into the country, on the 13th of February, to see a gentleman who had met with a severe accident, by his horse having fallen backwards with him, and upon him, into a deep and narrow ditch; where he had remained, as he supposes, for near a quarter of an hour before he was discovered, when he was nearly exhausted by pain and by fruitless exertions in calling aloud for aid. The horse was lying on its back upon him, with his heels struggling in the air; but the gentleman, who is strong and muscular, appears to have retained a firm hold of the bridle, and thus to have kept down the horse's head, and restrained, in some degree, the violent efforts of the animal.

He had been brought home, and was on his bed when I arrived. On examining the limb, I found it unusually elongated, at least from three to three inches and a half. The thigh was much flexed upon the pelvis; the leg as much bent on the thigh. The whole limb was carried outward, or apart from the other, more than I had ever observed in any case of luxation. The knee and the foot were much everted, the trochanter extremely sunk, the soft parts being elevated in a circle around it. I found that the head of the femur was displaced in a very unusually manner, to a situation inferior to the ischiatic notch; and I felt it lying close to, and on a level with, the tuberosity of the ischium, where it was capable of being freely moved under my fingers.

Without noticing the usual preparations for reducing a luxation, it will be sufficient to say, that, in the first attempt, the head of the bone was thrown into the foramen ovale. A second extension enabled me to place it *nearly* in its proper position in the acetabulum, but it could not be perfectly replaced; and on gently moving it, and placing my ear on the trochanter, I felt and heard a distinct grating, as if of ruptured cartilage. By drawing the upper part of the femur outwards, (by means of a round towel thrown over my neck,) and pressing the knee sharply inwards, the head of the bone was replaced, with a snap, in the acetabulum; but even after this I was able to elongate or pull down the limb, and it was evident to me that this was owing to a portion of the cartilaginous labrum having been broken off during the violence of the accident.

The gentleman was quite aware, and mentioned, after the first step, as I may call it, of the reduction into the foramen ovale, that the head of the bone was not properly replaced; and he stated that the luxation had taken place by the same route, first into the thyroid foramen, and afterwards, while struggling in the ditch, from thence downwards to the situation in which I found it. The case has proved very favourable, but there was a severe injury at the same time to the knee, which threatens still to be troublesome."*

There are obviously some distinctive characters between these cases. In Mr. Keate's, the head of the femur was not situated in the lesser sciatic foramen, but in some indeterminate situation contiguous to the sciatic tuberosity. Still it must be owned that some similarity exists between the cases. The other instance referred to by Dr. Kirkbride is related by Professor Warren, of Boston. It was one of great difficulty and some obscurity, and in which the attempt at reduction was not successful. From the account given of it, it seems to have somewhat resembled that recorded by Mr. Keate. The great increase in the length of the limb, (three inches,) and the position by the

* Med. Gaz Vol. x. p. 19.

foot, prove the head of the bone to have occupied a situation materially different from that described by Dr. Kirkbride.

The next case reported is a common one—dislocation of the head of the femur on the dorsum of the ilium. We may pass it by.

CASE 2. *Old Kind of Union of a Fractured Patella.*

In a patient who was received for other things, the following particulars were remarked in reference to the patella of the right knee. It had been formerly broken, and was partially united thus:—

The fracture had been transverse, and nearly in the middle of the bone; the two portions at the time of observation were connected together by a firm and nearly round ligamentous cord, about the ordinary size of the ring finger, and extending between the internal angles of the fragments; in all the rest of their extent no connexion whatever could be detected. The consequence of this is, that the external angles diverge widely from each other, being three and three-fourths inches apart when the leg is flexed, while the internal are only two and a half, and when the leg is extended, the former are two inches asunder, and the latter one and a half only. The fragments may almost be brought into contact by firm pressure. Notwithstanding this state of the parts, he is able to walk as rapidly as ever, and without perceptible limping. He suffers but little inconvenience from it, although he thinks it rather weaker than the other; and on one or two occasions, when carrying heavy weights, it has given way under him, and required rest for a few days afterwards; in ascending stairs he generally puts the left foot foremost, and brings the other up to it, although this is not absolutely necessary. The history he gives of the injury is, that having fractured the patella by a fall, the limb was kept in splints for four weeks, when, contrary to the advice of his attendant, he removed them, and began to move the joint. Although he suffered some pain at first, he never afterwards consulted his physician, and in three months from the occurrence of the accident he engaged in his usual occupations.

CASE 3.—*Fracture of the External Condyle of the Femur—Moveable Fracture-box.*

A case of fracture of the external condyle of the femur is reported. It exhibits no feature of importance, and we merely mention it, to make it a peg for the following remarks of the reporter on the use of moveable fracture-boxes. We should observe that in the case in question the extended position and the long splint of Dessault were the means at first employed, but that when union appeared to have taken place, the motions were both limited and painful. To remedy this a box was contrived, the angle of which (at the knee we presume) admitted of alteration. Motion was thus gradually and safely obtained.

"The stiffening," says Dr. K., "after fractures is of so frequent occurrence, and so annoying to both patient and surgeon, that any means likely to lessen its frequency or to restore the action of the part are very important. The moveable fracture-box employed in the above case is often exceedingly useful, and may be applied as soon as the callus has become tolerably firm, previous to which the extended position will almost always be found to be the safest. From the result of two or three cases of severe compound fracture of the leg, in which the splint of Professor SMITH, of Baltimore, was used, I am inclined to believe that it will be found exceedingly useful in obviating the inconvenience above noted; as in two of the cases there was no rigidity or pain in the joints, although their confinement had been protracted. This splint is also worthy of commendation, from its very great convenience in compound fractures, particularly of the leg, (in which alone I have as yet employed it,) from the facility with which the parts may be inspected, the soiled dressings removed, and thorough ablutions of the part performed without in the slightest degree incommoding the patient or disturbing the coaptation of the fragments. The position too is generally agreeable to the patient, and motion of the joints

may easily be made, whenever deemed adviseable."

CASE 4. *Fracture of the Humerus from mere Muscular Exertion.*

L. M., æt. 21, admitted January 14th, 1835. He is tolerably robust, and has always enjoyed good health, except that about four months previous to his admission, he had an attack of rheumatism. He had never before had any fracture excepting of the skull, from a blow by a brick-bat when about five years old, when several portions of bone were removed; these parts are now firm. On the morning of his admission, he was throwing oyster-sells from the wharf on the ice in the Delaware, and, in one of his efforts, which at the time he did not think violent, by simple muscular exertion he produced a fracture of the os humeri, about one-third of its length from the lower extremity. He came to the hospital immediately afterwards, nothing peculiar occurred during the treatment, and the bone became perfectly firm in about the usual period.

INJURIES OF THE HEAD.

CASE 1. *Wounds of the Scalp—Symptoms of Phrenitis.*

A coloured seaman, æt. 26, was knocked down by a cart on the 1st November, 1834. The scalp was wounded, and a portion of the right parietal bone, denuded of periosteum, exposed. He was received into the hospital half an hour afterwards, insensible and apparently intoxicated. He gradually recovered his sensibility, and no unpleasant symptoms were observed till the evening of the 6th, when he had violent pain in the head, and frequent vomiting; the bowels were not open—the scalp-wound was suppurating. A stimulating enema, the mustard pediluvium, and cupping on the head, were the means employed. At 10, p. m., the symptoms were aggravated—pulse 80, with some strength—surface warm—some twitches in the left arm—restlessness and irritability.

V.S. ad ʒXXXV.—*C.c. capiti raso ad* ʒX. —*Postea lot. frig.—Mist. effervesc.*

The pulse rose during the venesection, which, however, was continued until a decided impression was made on it. The pain was much relieved, but still it did not disappear, and next morning it was described as deeply-seated in the eye-balls, and aggravated by the light—pupil a little contracted, and the conjunctiva injected—pulse 80, slightly irregular—tongue furred and whitish—skin warm.

Mercurial purge—Solut. ant. tart.

After this he steadily improved—the scalp-wound healed—and on the 13th January, he was dismissed cured.

We notice this case, not on account of its containing any thing extraordinary or striking, but because it will enable us a make two practical remarks. In the first place, the reporter of the case does not appear to be fully aware of the value of calomel in the treatment of the inflammation of the brain or of its membranes that may follow an injury of the head. Mercury is extremely useful in these cases. Conjoined with bleeding it accelerates the cure, and it also diminishes the quantity of blood which it is necessary to abstract—in other words, it saves both time and blood. There are some cases indeed where simple antiphlogistic treatment will not of itself be sufficient to check the inflammatory action. Mercury is very serviceable, and every surgeon ought to be well aware of that.

The second remark we have to offer is not peculiarly applicable to this case. But we would observe that two or three days after a scalp-wound, symptoms are apt to make their appearance, which the surgeon may and frequently does mistake for phrenitis. There are nausea—fever—pain in the head. These symptoms usher in erysipelas. Phrenitis usually occurs at rather a later period. But of course there is great uncertainty about this, and the surgeon should be upon his guard. It is better to sin on the side of considering the disease phrenitis, and treating it actively in consequence, than on that of holding it too cheap, and allowing, perhaps, irretrievable mischief to occur.

CASE 2. *Fracture with Depression—Death on the 30th day.*

A labourer, æt. 31, fell from a height of about thirty feet, was insensible for a short time after the accident, and vomited blood, which probably proceeded from the nose, as that was found to be bleeding afterwards. In the course of the day he was taken to the hospital. He was then sensible, and answered questions correctly.

In the evening there was slight reaction, and he was ordered to be cupped, &c. He went on pretty well till the 5th day, when there were restlessness, slight delirium, pyrexia, and pupils a little contracted. *Bleeding, purging, &c.* On the 7th day, the symptoms were aggravated--sleeplessness--slight subsultus—picking at the bed-clothes —head hot—pulse 100—tongue dry—sordes on the teeth. *Cupping, &c. followed by blisters.* The symptoms were slightly and partially relieved, but on the 20th day we find him with low fever—disposition to get out of bed—low muttering delirium. We see no necessity for pursuing the details of the case. The symptoms of low fever continued—he sank progressively—and on the 30th day after the accident he died, having exhibited strabismus for the two days previously.

Dissection. Passing over a multitude of unimportant particulars, we shall content ourselves with stating what alone is essential—the condition of the head.

"Upon removing the scalp an effusion of blood was found immediately over the anterior part of the frontal bone; upon removing the pericranium, which was not detached, a fracture was observed, with very slight depression; this fracture, as discovered at a later stage of the dissection, commenced on the right side, two inches above the orbit, near the external part of the os frontis, and extended obliquely down to the orbit; from this another fracture extended so as to meet the orbit one inch nearer the external canthus. The first, after reaching the orbit, passed in a straight line through the whole body of the sphenoid bone, one-fourth of an inch from its centre. On the left side of the head was another fracture, a little more external, but taking the same general direction, and terminating at the body of the sphenoid. The depression of the frontal bone was about the one-sixteenth of an inch.

Brain.—Vessels on the dura mater and longitudinal sinus empty; the lateral sinuses contained coagulated blood; the arachnoid on the surface smooth, very moist; pia mater paler than usual; cortical substance of good consistence and natural color; medullary pale, firm, very few dots; brain throughout moist. The arachnoid covering the anterior lobes of the brain, corresponding with the fracture, and surrounding the optic nerves, was dry, granulated, and adherent. The central parts were pale and of perfect consistence. *Cerebellum.* On the inferior surface of each lobe was a coagulum of blood, superficial, nearly half an inch in diameter, immediately around which was doubtful softening. The ventricles contained ʒij. of serum, and about the same quantity existed at the base of the brain."

There are two rather singular features in this case. First, although there was fracture with depression, and although there was extravasation of blood into the lateral sinuses, as well as on the cerebellum, the patient recovered his sensibility, and at first had the usual symptoms of concussion rather than those of compression. This we say is not common, but instances of the sort are seen now and then. The second peculiarity is this. The patient died with low fever, and those symptoms which mark ramollissement of the brain, or at all events which mark the changes in that organ or its membranes occasioned by slow inflammatory action. Yet the account of the dissection, if correct, shews that only a dry, granulated, and adherent state of one portion of the archnoid, and dubious softening of the surface of the cerebellum were the only lesions. We should certainly have anticipated the existence of more.

To the practical and philosophic surgeon the interest connected with the study of the injuries of the head is unlimited. Each fresh fact offers something new, and from each the most observant and experienced surgeons gathers information.

CLINICAL LECTURES.

1. MR. TRAVERS ON CLINICAL INSTRUCTION.

Mr. Travers at the commencement of the present medical session, delivered to the students of St. Thomas's Hospital a clinical lecture on clinical tuition. It appears that, from some cause which it is not our business to inquire into, the school of that hospital has somewhat declined. There is evidently on the part of students a migration to the West. The Borough schools, formerly so flourishing, would seem to be losing a portion of the pupils, and this important *pabulum* of lecturers and lectures is more rife at the other end of the metropolis.

Small states, as well as large, submit to the revolutions of time and taste. We have dynasties overthrown in a parish, as in a nation, and the victory of the Browns over the Thompsons, is just as much a matter of science and of strength, as the conquest of one people by another. It appears from the weekly journals that in this metropolis a fearful rivalry exists between the hospital and the private schools. Far be it from us to enter the lists in favour of either, but we may make a few observations on their present and their past position.

It is not many years since interest was much more potent than it now is. The Colleges peacefully issued their decrees, which were little talked of and less questioned. Students were to be educated at a few specified places, and whether the teachers were good or bad was a matter of comparatively little consequence. One school, perhaps, would have more reputation than another, but the establishments were few, and the differences between them were, after all, unimportant. The mode of procuring bodies for dissection reduced the anatomical teachers pretty nearly to a level, for the resurrection-men had this great merit, that they served with equal diligence all who paid them. If a private teacher fee'd these ruffians well, he was certain of a good supply of bodies, and he consequently had the means of teaching anatomy quite as well as his hospital rivals.

But "a change came o'er the spirit of the dream." The genius of reform walked forth, and he laid his hand upon the Colleges. The private teachers had been formerly licensed with some degree of difficulty and reluctance. Monopoly or the semblance of it, was no longer possible, and, properly enough, the private teachers were allowed to take their course, and increase and multiply as circumstances should direct them. Many of our readers must recollect the year on which this license was first felt and carried to its full extent. The teachers overspread London like locusts, and the number of the new private schools was astounding. Gentlemen appeared to think that all they had to do was to lecture—classes *must* come.

A few years have elapsed. The private schools have dwindled and are dwindling, and it is not difficult to perceive that in a very few years more there will be five or six large schools in London, and that many which are now struggling for existence, will inevitably sink. The experiment has been made, or rather it is being made at this moment, whether the means of private teachers will enable them to compete with public teachers. It is only a fraction of that great trial which is going on throughout the country—it is a part of the great struggle between capital and no capital. The case of the small and the great manufacturers is perfectly analogous. That case has been very ably stated in successive numbers of the two political and critical reviews, the Edinburgh and the Quarterly. However we may deplore, and all men of humanity must deplore, the hardships experienced by the small manufacturers, there is not a doubt that they are falling fast, and the great Cotton Lords must win the day. The accumulation of capital is the natural tendency of things, and capital is power.

The teachers connected with the great hospitals possess numerous advantages over their private competitors. In the first place, there is the advantage of concentration. Systematic lectures

—clinical lectures—hospital practice—dissections in common and in morbid anatomy, all come together, for mutual aid. The student does not lose his time. In the next place, the hospital affords its teachers opportunities for illustration of every description. To the lecturers on physic and surgery, living patients, the alterations of organs in the dead-house, and the preparations of those changes in the museum. The anatomical lecture-table is supplied with viscera and with all the matériel for demonstration, independently of the regular supply of bodies, which he shares, probably equally, with his neighbours. When we add to these advantages, the actual monetary means at the disposal of the combined lecturers of large establishments, we shall understand what *their* capital is, and how heavily it must weigh in the scale, against the almost unassisted industry of the private lecturer. Indeed it may be said that the contest between the hospital and private schools is decided.

But a graver contest is impending—one between the great public schools themselves. It will be curious to watch this battle. The schools which are to take the lead in London *must* have men of talent connected with them. The mass of the profession are very well acquainted now with what a teacher should be, and are disposed to look with very jealous eyes at any thing approaching to the appointment of fainéants. Public opinion is stronger every day in the profession. The contest between the metropolitan schools will make *some* of those schools appeal to public opinion, and woe to the establishment against which that opinion is directed. The qualifications for a popular lecturer of these days, are widely different from what they were, even a few years back. Whatever his sterling merits may be, there must be some ad captandum talents too. This is felt at the hospitals and schools, and medical officers and lecturers are daily becoming more cautious whom they admit into their ranks. The false choice of one is the gain of another, and the appointments of mere interest may be said to have nearly passed away. Self-preservation forbids them.

We have wandered, however, from the immediate subject—the introductory lecture of Mr. Travers to the clinical course. We extract the following sentiment of that gentleman on the value of clinical instruction.

"With regard to CLINICAL INSTRUCTION, it may fairly be stated, that no mode that can be devised is more helpful to the student in acquiring a thorough knowledge of medicine—the term *medicine* including both medicine and surgery. The present era has been, and will continue to be, distinguished in all times for the great contributions made to this department of science. Its advantages are most obvious. The mind is far more difficult to be fastened on a subject when it is addressed only through the ear (as in the general systematic lectures,) but what obtains the cognizance of other senses (as in clinical instruction) is calculated never to quit the mind."

People are too apt to swim with the stream. A little while ago no clinical lectures were delivered—now every body wishes to give clinical lectures, and these are the veritable Amphitryon, the high road to knowledge. There is a great deal of exaggeration in the present mania for clinical lectures. As we were amongst the most earnest in recommending the adoption of the clinical system, we shall not be accused of an overweening fondness for things as they were, in questioning whether that system may not be pressed too far—whether the hobby may not possibly be ridden too hard.

Clinical lectures are lectures on particulars, in opposition to systematic lectures, which are rather devoted to general principles. It is true that the whole is made up of parts, and that instruction upon those parts must greatly contribute to a comprehension of the whole. But it would be absurd in theory to make the study of the part superior to that of the whole, and practically, the absurdity is even greater than it is in theory. We have seen something of the effects of clinical lectures, and valuable as they are, we are convinced that they cannot be made a substitute for general lectures or for individual study. We greatly doubt whe-

ther formal clinical lectures have not already been carried too far. Pupils appear to us to be rather sick of them, and if ten clinical lectures are delivered weekly in any one hospital, we venture to say that not more than two or three are generally well attended. If a man is very popular as a lecturer, and if his practical knowledge is great, his clinical benches will be filled. But under ordinary circumstances, clinical lectures are not well attended.

Mr. Travers alludes to the old maxim that "seeing is believing:"—

> Segnius irritant animos demissa per aures,
> Quam quæ sunt oculis subjecta fidelibus—

This is less applicable to clinical lectures, strictly speaking, than to clinical instruction. It appears to us that there is not quite enough of the latter, and a tendency perhaps to accumulate upon the student rather too much of the former. At some of the hospitals the diurnal visit is a gallopade. The surgeon and the students walk the wards, or rather run them, as if the cry was "sauve qui peut." A few hurried questions are asked, and scarcely answered, a few hurried things are done, the pupils scamper, jostle, and talk, and a certain amount of space having been traversed by these peripatetic philosophers, what is called the "visit" of the day is over, and like most morning visits, it ends by leaving those who receive or those who pay it very little the wiser. This is the portion of hospital practice which we think might be much improved. A well-regulated system of bed-side instruction might be made more profitable, and infinitely more attractive than the present indulgence in formal lectures. We do not wish to be misunderstood. We are not advocating the discontinuance of clinical lectures—far from it; but we think that they are carried rather too far, and that their frequency is defeating the object for which they were instituted, by fatiguing and disgusting the already too be-lectured student. One thing is quite certain, that a great many clinical lectures and lecturers are very badly attended. With these observations into which we have been almost unconsciously betrayed, we proceed to notice some portions of clinical lectures delivered by various gentlemen, and published in the contemporary journals.

II. CLINICAL LECTURES OF SIR B. BRODIE.

1. *On Epulis.**

This disease, according to Sir B. C. Brodie's experience, occurs usually in women; but he has seen it in men. The following is the history of the complaint presented us by this excellent practical surgeon.

"When you look at the disease in its early stage, it appears as if a part of the gum were more prominent than the rest; the prominent part is covered by a membrane like the gum, and when cut into, it is not very different in appearance from the consistence and structure of the gum itself; at least, so far as the eye can discern. On these accounts, as it looks like the gum on the surface, as it cuts like the gum, and as it is connected with the gum, so it is supposed generally to have its origin in the gum, and I cannot say that that is not its source in some instances; but yet I must own that in cases which I have had an opportunity of examining, it has appeared to me that the disease originated in the alveolar processes. I have observed that the disease is always situated by the side of one tooth, and generally a tooth is pushed out of the socket as the disease advances. The history of the present patient tends to confirm this opinion, for she says that the teeth became loose and dropped out, and then grew up the tumour. Here is a specimen (*presenting it*) of the disease, attached to the jaw, and in which it evidently appeared to have originated in the alveolar process. In the operation, I removed with the tumour the portion of jaw belonging to it; and I found in that part of the jaw which was sawn through, and where it was not supposed that any tumour existed, that there was a subtance exactly like

* Lancet, Nov. 21, 1835.

the tumour itself, in the alveolar process. I sawed through the bone where I thought it was healthy, and there I found the socket of an alveolus, in which the structure was so exactly like that of the large tumour, that I thought it right to destroy this part. The tumour is at first small; as it advances the teeth drop out, and the tumour at last extends from one side of the jaw to the other. If the disease go on it will ulcerate and increase in size, and although in this woman it remained stationary, as any tumour may, yet it may go on to attain any magnitude. I have seen a tumour occupy the entire half of the lower jaw, so that the patient could not close the mouth; and it may go on further still, and run the course of any malignant tumour. Consider what any malignant tumour of the jaw will do, and that is what this tumour also may do. It may occupy the cavity of the mouth itself, press upon the cheek, and ultimately produce destruction of the face, so that you have a large ill-conditioned ulcer, with a tumour at the bottom of it. In short, it may run the course of any malignant disease."

Sir B. Brodie proceeds to state that although the tumour, if left to itself, will ulcerate, slough, and produce destruction of contiguous parts, just as scirrhus or fungus hæmatodes, yet it is only so far malignant; for it will not contaminate the constitution like those truly malignant disorders. If a scirrhous tumour is removed, the probability is, that another scirrhous tumour will appear in the cicatrix, or in some other organ or part. But epulis is one of those half-malignant diseases, which, although not capable of a natural cure, and ending in the destruction of the textures with which they are immediately involved, do not seem to produce that condition of system which gives rise to the formation of similar tumours elsewhere. This is a very consolatory fact, and exerts, of course, an important influence on our views of treatment.

If tumors then like epulis are removed, they do not re-appear. But they must be removed *entirely*. When the tumor is taken away at a late stage, the disease does occasionally return. The reason is, not that the disease is then more malignant, but the eradication by the operation has not been quite *complete*. The same thing occurs with the tubercles which form on the cheeks of old persons. Remove them early and remove them perfectly, and they do not grow again. If removed late, they may not then be removed so perfectly, and so under these circumstances they do grow again. The following is Sir B. Brodie's method of operating in the instance of epulis.

"The mode of proceeding must depend on circumstances—on the size of the tumour—on its extent—and, partly, on its position. In the greater number of cases of this kind that I see—in private practice at least,—the disease is in the early stage, and, of course, then, the tumour is of small size, and may be easily destroyed in the following manner:—First of all, all the teeth which seem in any way to interfere with the disease must be drawn. This step must be taken before you can do any thing else. You thus expose the tumour completely, and then, in ordinary cases, you may proceed in the following manner. If the teeth, where the tumour is formed, have been dropped out for some time, the alveolar processes have become absorbed; otherwise, of course they remain, and this circumstance you must bear in mind. I am now speaking of cases where the tumour is small. I place the patient before the light, and then cut off the excrescence, so far as I can get at it. If the alveolar processes remain, of course I use such a knife as can be carried to the bottom of them; but if they have been absorbed, a straight common knife will do. You then wait for the bleeding to subside, and if there be a great deal of hemorrhage, you may postpone the next step of the operation to another day, when it may be done quite as well as on the first occasion. The next step of the operation is to apply the caustic potass to the surface of the bone from which the tumor arose. You may apply the actual cautery, or nitric acid; but I prefer the caustic potass, which answers the purpose fully as well as the actual cautery, and

frightens the patient much less. I think, moreover, that you know more exactly how far you go with the caustic potass than you do with the actual cautery; and be assured, also, for I speak from having employed it many times, that it answers the purpose perfectly. You should have a piece of caustic potass, with a point so as to enter the alveolar process. It should be cut in the shape of a pencil, and be a piece of a tolerable length, and it should be fixed, at right angles, in the end of a pair of dressing forceps. Do not trust to your hands to hold it tight in the forceps, but let it be fastened on by a ligature, passed round several times; apply it to the surface from which the tumour had been removed; but if the alveolar process remains take care that the caustic penetrates to the bottom of the process. Many prefer the caustic potass to anything else, because it does not coagulate the blood, and does not prevent the caustic from acting, and because also, it will penetrate somewhat into the substance of the parts; whereas the nitric acid coagulates every substance with which it comes in contact, and does not sink into it; it is more limited in its effects. You may conceive that the caustic potass is very likely to run about, to surround the cheek, to burn the tongue, and to injure parts beyond those which it is your intention to injure. It will dissolve in saliva, in the blood, and in the urine, and if it were to run about it would produce very great evil. How, then, are you to obviate the effects of such an accident? Why, just as you always would avoid the effects of its application where you do not want it to operate. Whenever you employ it for the destruction of living parts, have something at hand that will act as an antidote to it, and stop its operation. If you use caustic potass, you need only have some vinegar within reach, with bits of lint to dip into the vinegar and apply to the neighbouring texture. If you employ nitric acid, have some carbonate of potass, or chalk and water, ready to apply to protect neighbouring parts. You should never use caustic without having something by you that will destroy its properties, when the caustic is in danger of interfering with the neighbouring textures. There are some cases in which you apply the nitrate of silver (which is not a powerful caustic, and not much used for the destruction of parts) to the inside of the eyelids. Always have something at hand on such occasions to stop its operation, and the best antidote with which I am acquainted, is common oil, which stops its action presently. But, to return.

Having removed the part with the knife, apply the potass to the surface, by which you will make a slough of the neighbouring parts, and destroy the surface of the bones. If the disease has descended to the alveolus, and the alveolar process is not absorbed, a narrow piece of caustic is to be introduced into the bottom of the process. This may be done at the time of excising the tumour, if there be not too much hemorrhage; but if there be, then it is better to defer the application to another day: no harm arises from waiting, and you never can apply the caustic to much advantage when there is much hemorrhage; that was the reason why I only applied the caustic slightly to-day. You should always examine the part afterwards, in order to ascertain if you have left any portion of the tumour undestroyed. If you have, it may be removed by a knife, or by the caustic potass, afterwards. It is not often necessary, but still, where the comfort or the life of the patient is at stake, you should exercise this precaution."

In cases where bone enters into the composition of the base of the tumor, Sir B. Brodie employs a pair of bone-nippers, a modification of the common stump-bone nippers, but constructed with a double lever by Mr. Weiss. The double lever gives great additional power to the operator. Sir B. Brodie particularly cautions the operator not to leave any disease in the jaw. It may be necessary to remove very large portions, or the whole of it.

II. SIR B. BRODIE ON AFFECTIONS OF THE RECTUM.*

Spasmodic Contractions of the Sphincter Ani.

Every surgeon knows what a painful and troublesome complaint this is. According to Sir B. Brodie's experience it is most frequent in women, especially in those disposed to hysteria. Frequently a small ulcer of the mucous membrane of the rectum is found to exist in connection with this affection of the sphincter. The ulcer is situated opposite the point of the os coccygis. It is exquisitely painful on pressure, the passage of the fæces, &c. The following is Sir B. Brodie's treatment of the complaint.

"When the patient does not suffer excessively from this disease, you may sometimes relieve her in the following manner:—Give her purgative medicine, so that she may never have hard or figured evacuations, and let an opiate suppository be introduced at night. I have formerly used a suppository with extract of belladonna, with manifest advantage; but I own that I am not in the habit of frequently employing this remedy. Even used in the form of a suppository, the belladonna sometimes produces very serious symptoms, by its influence on the brain. In addition to what I have mentioned, the patient may introduce a bougie into the anus, to dilate the orifice of the bowel, each time before she goes to the water-closet.

These remedies, however, are of no avail in bad cases of this disease, and then it is absolutely necessary to resort to some more certain means of cure. It may always be relieved by a simple operation—the division of the sphincter ani muscle. You introduce a straight probe-pointed bistoury into the anus, and cut through the fibres of the muscle, taking care not to penetrate beyond them. The fibres are of considerable thickness, and you cannot cut them through at one incision, nor should you attempt it; the knife must be drawn across the muscle two or three times before the operation is completed. It is generally sufficient if you divide the muscle on one side. It is better to divide it laterally than either in the posterior or anterior direction. The wound does not readily heal if the division be made towards either the perineum or the os coccygis; nay, more than that, if in the female you divide the muscle towards the perineum, and consequently towards the vagina, you make the patient miserable for life, for there is incontinence of fæces ever afterwards; whereas, if you divide it in any other direction, this inconvenience is altogether avoided after the wound is healed."

On the day preceding the operation, it is better to give the patient a smart purgative, and, after it has operated, to prescribe a dose of opium, in order to keep the bowels constipated for the two or three days following; then they may be opened with castor-oil. The operation, so far as Sir B. Brodie has seen, has been successful. In one case, however, that of a peculiarly nervous lady, death ensued from peritoneal and pleural inflammation and effusion.

It is difficult to pronounce on the quantum of danger that may follow operations on the rectum. We have seen a patient, with simple ulcer of the rectum, die in consequence of a mere manual examination. Inflammation was produced, and it extended to the loose cellular tissue immediately external to the muscular tissue; from this it spread to the cellular tissue external to the peritoneum, and so terminated in the destruction of the patient. In another case of ulceration of the rectum after dysentery, in which the contraction of the cicatrix gave rise to a species of stricture, we saw death ensue from the introduction of a bougie. The instrument did not penetrate the tunics, nor did it appear to have done any mischief to the gut; but it gave rise to inflammation and suppuration in the cellular tissue external to the bowel, and this extending to the cellular tissue of the pelvis, the patient, as we mentioned, died.

Treatment of Ulcer of the Rectum.

This may or may not occur in con-

* Med. Gazette, April 4, 1835.

nexion with spasmodic contraction of the sphincter. When it does, it is necessary to divide the sphincter; when it does not, division, from above downwards, of the ulcer and the mucous membrane only, frequently effects a cure. If the patient is averse to an operation, the Ward's paste, given internally, and gentle aperients to regulate the bowels, may succeed. In one case, Sir B. Brodie cured the ulcer by suppositories of Ward's paste and soap.

Sir B. Brodie makes no mention of caustic. We have twice cured this kind of ulcer of the rectum by means of the nitrate of silver. This was applied at first every other, and afterwards every third day, and the bowels were kept open with castor-oil. We believe that the lunar caustic has been frequently successful in the hands of other surgeons; at least we have read, somewhere, accounts of its beneficial employment.

Stricture of the Rectum.

There is great reason to apprehend that rectum bougies are much abused. Many patients have bougies poked constantly into the rectum, who have no stricture of that gut. We have at present under our care a gentleman, who had been treated with long bougies for stricture of the rectum. When we saw him, there was no stricture of the bowel within the reach of the finger. From the history and symptoms of the case, we concluded that there was disease of the upper part of the intestinal canal. We recommended a total discontinuance of the use of the bougie, and general remedies, which we need not stop to specify. The patient has now ceased to use the bougie for some time, and his symptoms have improved rather than retrograded, a pretty good proof that our opinion, respecting the supposed stricture of the rectum was correct. The following sentiments of Sir B. Brodie on this head, should sink deep in the minds of surgeons.

"Strictures of the rectum are commonly situated in the lower part of the gut, within the reach of the finger. Are they ever situated higher up? I saw one case, where stricture of the rectum was about six inches above the anus; and I saw another case where there was stricture in the sigmoid flexure of the colon, and manifestly the consequence of a contracted cicatrix of an ulcer which had formerly existed at this part. Every now and then, also, I have heard from medical practitioners of my acquaintance, of a stricture of the upper portion of the rectum, or of the sigmoid flexure of the colon, having been discovered after death. *Such cases, however, you may be assured, are of very rare occurrence.* Inquire of anatomists who have been for many years teachers in the dissecting-room, or of surgeons who have witnessed a great number of examinations in the dead-house of an hospital, and they will bear testimony to the correctness of what I have now stated.

Nevertheless, an opinion has of late years prevailed among some members of our profession, that a stricture high up in the rectum is a very frequent cause of constipation of the bowels; and I have known an almost incredible number of persons who have been treated on the supposition of their labouring under such a disease, by the introduction of long bougies into the bowel. The only evidence of the existence of a stricture in these cases has been, *first*, that there was obstinate costiveness; *secondly*, that a bougie introduced into the rectum could not be made to pass beyond a certain number of inches beyond the anus.

But what is the value of this evidence when compared with that which anatomy affords of the rarity of this kind of stricture? Are there not many causes of a costive state of the bowels besides mechanical obstruction? Will it be always easy, even in the most healthy rectum, to introduce a bougie more than a few inches into it? Although we call the lower bowel the *rectum*, you know very well that it is any thing but a straight gut. Three or four inches above the anus the rectum begins to make flexures, which increase as you trace it upwards, until they terminate in the sigmoid flexure of the colon. These flexures of the rectum differ in different individuals, and even in the

same individual at different periods. When a bougie is introduced, be it small or large, it is certain that it will be stopped somewhere or another by one of these flexures; and nothing can be more unphilosophical than to conclude, because a bougie meets with an impediment at the distance of five or six, or eight or nine inches, that this is the result of an organic disease of the rectum, when the natural formation of the parts will sufficiently account for it.

But let us suppose that you actually meet with one of those rare cases in which there is a stricture in the upper part of the rectum; by what means are you to recognize the disease in the living person? Or, if you can recognize it, how can you know its exact situation? If the bougie can only be introduced to a certain distance, how are you to be certain that it is stopped by the stricture, and not by a fold of the bowel, or even by coming in contact with the sacrum?

Further than this, if you employ the force which you would suppose to be necessary to make the bougie penetrate through the stricture, is there no danger of it penetrating the tunics of the intestine instead? This last is no theoretical objection to the use of these long bougies in diseases of those parts, I will not say that I have seen the patients; but I have been informed on good authority of not less than seven or eight cases in which this frightful accident occurred, and the patients died in consequence.

Taking all these things into consideration, I advise you to lay it down for yourselves as a rule of practice, that you should not use bougies for stricture of the rectum, except where the stricture is within reach of the finger. If there be any exceptions to this rule, they are very rare indeed."

We repeat, that we recommend surgeons to lay the experience and advice of Sir Benjamin Brodie to heart, for they may be very well assured that it is much to the advantage of themselves and their patients to do so.

Sir B. Brodie's treatment of stricture of the rectum may be easily summed up. If good is to be done, it is at first. In the latter stages of stricture of the rectum, ulceration of the stricture and of the contiguous gut—abscesses in the neighbouring cellular membrane—sinuses, &c. may have formed. We may then palliate, but the patient far too frequently dies. In the early stage, the careful use of the bougie—if the stricture is circular and cord-like, nicking it with the bistoire cachée, and dilatation with the bougie afterwards—proper attention to laxatives and diet, may effect a great deal of good. But in stricture of the rectum, as in stricture of the urethra, a *cure* is very seldom obtained, for the patient, to avoid relapse, must now and then pass a bougie for himself for the remainder of his life. If accumulations of fæces take place above the stricture, a gum catheter should be introduced through the stricture and into the fæces, and then warm water, or soap and water should be injected daily, to dissolve as far as possible and get rid of the accumulation. Sir B. Brodie has sometimes seen mercurial ointment smeared on lint, and the latter applied on the bougie, of benefit—and the irritability of the rectum is occasionally relieved in bad cases by the internal use of the decoction of the achillea mille folium. Two ounces should be added to a pint and a half of water, and this should be boiled down to a pint. The patient may take a wine-glass full three times daily.

III. Mr. Green on the Employment of the Seton for Hydrocele.*

Those who are acquainted with the writings of Mr. Pott, are aware that he employed the seton for the radical cure of hydrocele. It was then a great improvement, but a greater, the injection of the tunica vaginalis, coming afterwards, the seton was abandoned.

Mr. Green would seem to be dissatisfied with the operation of injection, and he has been making experiments with the seton in order to ascertain if he could not regulate its effects, and find in it at once an effective and a mild remedy for hydrocele.

* St. Thomas's Hospital Reports.

Omitting a good many observations which contain nothing that would be novel to the greater part of our readers, we will extract at once Mr. Green's mode of procedure, and his own account of his success. It forms the termination of the lecture.

"After duly weighing all these important circumstances, it struck me that if a seton were carried through the tunica vaginalis, there would be a source of irritation sufficient to produce the required inflammation, and at the same time the opportunity given of regulating its degree, that is, that the seton might be allowed to remain till there were symptoms of such a degree of inflammation as is requisite for the change necessary to be produced in the tunic, and that this being effected the seton might then be withdrawn; and that the extraneous irritant being thus removed, it would have no further effect than was necessary either for the change of the surface of the membrane or for the obliteration of the tunic. It was with this view that the plan was adopted in the cases which I have cited.

The first case was indeed a partial failure, and the cause is evident; for the seton was withdrawn too early, in consequence of the pain he experienced after a very few hours. The operation was performed at one o'clock and the seton was withdrawn at ten, a period too short for the production of the requisite inflammation. Probably, indeed, the irritation tended to produce a quicker re-accumulation of the fluid. It is worth notice in this case, that the same individual should evince so much less disposition to inflammation in the second operation than in the first, although the second operation so quickly succeeded the first. It will be seen too that in this case some benefit might be attributed to the use of iodine, and perhaps you will not consider the following observations out of place.

A boy was brought to me a few days back, whom I had seen about two months since. I had recommended, although the boy was young, puncturing the tunic, for it was a hydrocele of large size with which he was afflicted. But there were some circumstances which induced the father to prefer it not being done at that time. In the meanwhile I ordered the *Unguentum Hydriodatis Potassæ*, according to Lugol's formula, to be rubbed on the scrotum daily. This was done during six weeks, and the fluid had become absorbed. I have not much faith, however, in the application being generally useful in this respect; for, as far as my experience goes, local applications, in cases of hydrocele, are generally useless, except in very young persons. Hydrocele is by no means uncommon in children, and it is not necessary to have recourse to an operation in them: for in general it may be removed by a lotion (as that of *Liq. Ammon. Acet.* with spirit, or a solution of muriate of ammonia with vinegar), which is cold so as to produce a constriction of the scrotum, and at the same time stimulating in order to excite the vessels.

The second is a successful case, with the exception of the little suppuration in the cellular membrane.

The third completely answered my expectations.

In the fourth case suppuration took place in the cavity of the tunica vaginalis, which rendered it necessary that the tunic should be slit open in order to allow the escape of the purulent fluid.

The fifth case presents nothing remarkable; it was completely successful, the threads having been withdrawn after twenty-four hours.

The sixth case likewise has nothing remarkable in it, and we have only to draw attention to the successful result.

In the seventh case the success was not complete; but it appears that two previous operations by injection had entirely failed.

In the eighth case a second operation was required.

Now, generalising these facts, the results of the above and other cases, I may venture perhaps to say that the plan of treatment is well adapted to answer the end for which it was intended. In two instances indeed the operation failed from the want of a suf-

ficient degree of inflammation, but which simply depended upon the insufficiency of the seton threads.

In another case there was a slight suppuration of the cellular membrane of the scrotum, which, however, only interfered with the rapidity of the cure, but was in no other way detrimental to the patient, nor prevented his speedy recovery. In another case, however, there was excessive inflammation and a suppurative process in the tunica vaginalis; and the possibility or probability of this occurrence is perhaps the most serious objection to the operation proposed which may be gathered from these cases. It might indeed raise in the mind a doubt on the principle itself of the operation. You introduce an extraneous body into the tunic, and you allow it to remain till inflammation is produced, and it is possible that the inflammatory action excited by extraneous bodies may tend to the suppurative instead of the adhesive form of inflammation. As, however, the result was only observed in one case, and as no such disposition was manifested in a number of cases, of which the success was perfect, we are perhaps warranted in drawing a conclusion generally in favour of the effects of the seton. Of course future cases (and as I shall continue to adopt the same plan of treatment such will not be wanting) will decide the point; but otherwise, in respect of having a mode of treatment enabling us to regulate the degree of inflammation, the plan here offered presents great advantages."

Thus we see that out of eight cases treated by the seton, two only were quite successful. One was doing well when the patient was dismissed, and the result left undetermined; a fourth was ultimately cured, but nearly two months elapsed, and some suppuration occurred in the cellular tissue of the scrotum. A fifth required two operations for the cure. In a sixth case, two operations were performed, and the patient was not ultimately cured. In a seventh case the seton was twice used, and this patient also was *not* cured—and finally, in another case, severe suppuration in the tunica vaginalis ensued. We must own that these results are any thing but satisfactory, and we venture to prophecy that the seton will be frequently found to do too much or too little—to produce only partial adhesion, or to give rise to suppuration. We anticipate little from the subsequent trials of Mr. Green, but we shall take care to lay the results before our readers.

Mr. Green observes that the seton is very applicable to the treatment of ganglions and bursæ. It is a dangerous remedy. We have twice seen death ensue from introducing a seton into the bursa situated over the inferior angle of the scapula. The surgeon should be cautious how he meddles with bursæ, in the way of exposing their cavity.

IV. Mr. Travers on Absorption of the Cranium.

The St. Thomas's Hospital Reports contain a curious case, that formed the subject of a clinical lecture on the part of Mr. Travers. The case, greatly abridged, is this:—

Case. *Absorption of a Portion of the Cranium, following a contused Wound, with remarkable Symptoms of Cerebral Disorder.*

A postilion, æt. 46, was thrown from a gig, and struck his head with great violence upon the corner of a stone. This was in January, 1833. The scalp was cut and severely bruised, and he remained insensible for about half an hour, after which he recovered, and was able to walk to the surgeon's house to have the wound dressed. For a twelvemonth he continued tolerably well, occasionally, however, suffering from severe headache, giddiness, and general depression. This state was relieved by free purging, with abstemiousness and rest. During this period, however, he was generally engaged as a groom. At the termination of a twelvemonth he had a fit, was insensible for three or four days, and unable to resume his occupation for a period of six weeks. He passed the second year in much the same way as the preceding one. In February last (1835) he was

engaged in the stable, and in the habit of driving the late Mr. James, surgeon, of Uxbridge, who observed that the man was much altered, having become forgetful and stupid. Towards the latter end of the same month, Mr. ———, was called to him in the stable, and found him labouring under a well-marked epileptic fit. On examining the head, some irregularity and unevenness of the skull was detected. He remained insensible for four days, though apparently conscious at intervals, and within this period had two or three modified paroxysms, which were slight, and of short duration, but not a single well-marked epileptic fit as before. There was a prominence about the size of a shilling upon the side of the left parietal bone exquisitely painful, when touched, and when pressed upon, giving rise to a peculiar train of symptoms—viz. dimness of sight in both eyes, singing in the ears, deafness, giddiness, and a sense of intolerable weight upon the head. He had great restlessness—his pulse very weak and quick, but perfectly regular—his bowels obstinately costive, and the alvine secretions very dark and offensive. From this time he gradually, though very slowly recovered, to a certain point; but he still continued to have restless nights and frightful dreams, constant headache, the centre or precise seat of which he referred to the part above noted; his deafness increased; bowels very obstinate; pulse weak and slow; but he was still able to walk about, and the symptoms abated in a degree. At the expiration of two months from the commencement of this attack he was again seized in much the same way, except that the fits were more frequent; his bowels were always very much constipated, and the secretions in a very bad state; the local and general symptoms resembled those of the former attack so closely, as to render a description of them superfluous. He gradually became much emaciated, and continued to have fits, though slight, up to the time he was sent to the Hospital.

Loss of memory, and great despondency were prominent symptoms. On admission his case is described thus:—

Much emaciated—skin yellow—appetite bad—bowels torpid. He has a constant distressing heavy pain over the posterior superior part of the left temple, the seat of the blow, where a small circumscribed elevation is perceptible, and pressure on which produces increase pain. The pain also darts to the forehead and opposite temple, and sometimes becomes more severe, and he is then rather violent. He frequently talks incoherently, and only answers questions when spoken to loudly. Both motion and sensation on the right side of the body are impaired. His memory is much deranged, and he especially forgets dates and names, so that it is impossible to obtain from him any satisfactory account of his complaint. His mind is easily excited, and he scarcely sleeps at all. He gradually got worse—paralysis of the right side supervened—and the fæces were passed involuntarily.

On July 3, the operation of trephining was performed. On cutting through the integuments, which had no appearance of recent change, but were somewhat thickened, a perforation in the bone was discovered, about the size of the tip of the little finger, with a thin smooth border which extended through both tables of the skull, leaving the dura mater exposed. The greater part of the margin of this circular aperture was included in the application of the trephine: the under-surface of the bone and the dura mater were perfectly healthy, and had contracted no morbid adhesion, nor was there any thickening or detachment of the pericranium.

After the operation, he became much worse—was unconscious—lost his voice—was unable to protrude his tongue—and had total paralysis of the right side.

He was now put on a course of mercury, which salivated him severely. He had one fit afterwards, but gradually improved, and on the 15th of October was discharged cured.

This is a curious and instructive case. No doubt the absorption of the cranium was owing to an increased vascular action originally set up by the blow. The fits, paralysis, and so forth, shew that vascular action was not

limited to the mere absorption of the cranium, which could, of itself, produce no such symptoms, but probably occasioned also some deposition about the arachnoid and pia mater, beneath the portion of the dura mater corresponding to the cranial aperture. The operation may have been of service by acting as an issue, and this, combined with the influence of the mercury, removed the inflammatory action and its consequences going on about the membranes, or beneath them. Such is the probable rationale of the case which we would offer.

Those who are anxious to learn the views of Mr. Travers, may refer to the Report itself. He ably illustrates by this case his peculiar doctrines of irritation.

V. Mr. Guthrie on the Removal of Large Calculi.

The following very important case we have condensed from a clinical lecture delivered by Mr. Guthrie, and furnished to us by a friend and correspondent. The case is highly interesting.

Lithotrity in the Female.—The case of Mary Ken, who has lately left the hospital, has been one of great interest to us all. She came into it for the first time more than a year back, having then so large a stone in the bladder, that I feared it could not be removed by merely dilating the urethra, which I soon found to be the case, and decided upon breaking it up. She did not however submit patiently to the first trial, and the bladder contained, and could only be made to contain, but little water; I was therefore obliged to abandon the attempt after merely introducing the instrument, from finding that I could not persevere with safety, and she was so frightened that she could not be quiet, or refrain from falling into hysterics. From this time for several months, whenever the urethra was attempted to be dilated she had an attack of fever, apparently from fear, and became so generally ill that I despaired of her recovery, and indeed of her life. She went out of the hospital for a time to recruit her health if she could, but finding she was fit for nothing she returned, and after having fixed the day for operating many times and as often failed, she at last mustered courage to submit, saying she felt she could not live if she did not obtain relief, and this time she behaved magnanimously. The stone had greatly encreased in size since she first came into the hospital, and seemed to lie across the outlet of the pelvis, like the head of a child, whilst no urine could be retained in the bladder, the neck of which was dilated, so that the stone could be touched by a sound an inch in length. Being placed on a table arranged for the purpose (Heurteloup's,) I divided the orifice of the urethra upwards with a straight bistoury introduced for one third of an inch within it. This admitted of that part being dilated much more easily, the peculiar structure at the very orifice not yielding readily, and often tearing rather than dilating. The urethra was now rapidly dilated by Mr. Weiss's dilator, until two fingers could be introduced, or a large pair of forceps, and I had several made with and without teeth for the purpose. None of them however could be opened so as to grasp the stone, and they merely rubbed or grated off small portions of the anterior part of it in the shape of sand or small grain. More than an hour had now elapsed, and nothing had been done of any consequence. Seeing that I never could open the forceps, I separated them like a midwifery forceps, and introduced one branch with some difficulty under the stone, and after several trials and with greater difficulty, the other branch was placed above it. They could not now however be made to lock at the hinge, so as to act efficiently upon the stone, which was so hard as to resist any moderate pressure, and that when another lithotrity instrument was screwed up upon them, they bent under the pressure until they met. It was therefore necessary to change them for a stronger pair, which was done, and at last the stone yielded in the middle, being apparently divided into two nearly equal parts. More than two hours had now elapsed, and some

small pieces only had been got away. The urethra had also contracted, and the neck of the bladder also, and it became necessary to re-dilate these parts with the dilator, which was done in two or three minutes. I now separated Mr. Weiss's lithotrity instrument into two parts, and introducing the lower branch below one of the broken halves that of the right side, I drew it forward and fixed it against the pubes. The difficulty was now how to introduce the other branch without injuring the upper part of the urethra and neck of the bladder, but this was effected at last by placing a small scoop, such as is used for removing small pieces of stone on the point of it, and in this manner carrying it forwards very carefully. The instrument once fixed in this manner, acted well and broke the large piece of stone into many small ones by one crush. Several of these were now readily extracted, and the remaining half was also broken into two or three pieces by another proceeding of a similar kind, and four ounces and a half were extracted, together with the end of one of the first forceps tried, and which had been broken under the pressure of the screw-instrument on the branches. More than three hours had now elapsed, and Nature was nearly exhausted. I was therefore obliged to cease. She had taken several ounces of wine during the latter part of the time, and had borne the tedious and painful steps of the whole remarkably well. She was more exhausted however by the length of continuance of the operation than by the severity of the pain, as I took care the whole time to do nothing hastily, and to allow none of the instruments to do more than was intended. She was put to bed in the same room (the House Surgeon's,) was diligently attended to, and had two grains of the muriate of morphia immediately, which quantity she was accustomed to take at night, and a grain from time to time until rest was procured.

It was quite delightful to find that she suffered little from so serious an operation; a great many small pieces of stone came away for several days, and a great deal of detritus, and one large piece was extracted by passing a probe behind it. Aware of the existence of another large piece in the bladder, she was anxious to have the operation repeated, and as soon as she was strong enough she fixed her day, and heroically submitted to it. I was now well prepared with instruments, the principal addition being a narrow sort of blunt gorget, which on the urethra being dilated, and one branch introduced, was passed in, and made to rest on the stone, so that the second branch of the screw lithotrity instrument could be readily run along it up to the stone, which was then crushed. The pieces thus broken up were brought away by a small but strong pair of forceps. There was great inconvenience experienced in using all these instruments, from the contracted state of the bladder, which grasped the larger pieces in such a way as to prevent their being easily seized or brought away. This was only overcome by opening the forceps well, and by that means dilating the bladder, when each piece was more easily grasped and brought away.—This operation was perfectly successful, and, by washing out the bladder from time to time, all the small pieces were brought away, and she has gone out perfectly free from calculus in the bladder. She is now quite fat, well, and a handsome young woman, free from pain, except a little in her back at times. She cannot however retain her water, and is obliged to wear an elastic bag, made for her liberally by Mr. Weiss, Jun. who furnished most of the instruments used in the different operations. The orifice of the bladder is contracted, so as to admit a common-sized female catheter less readily than usual, but it has not recovered its elasticity so as to shut the part close enough to prevent the urine escaping. She has improved on this point however, and I am in hopes she will continue to do so, and suffer less inconvenience. I have collected eight ounces and a half of calculus, principally of lithic acid, and she says herself she is sure as much more was lost—so as to make in all more than a pound by weight. How far

this was the case I know not; but the stone certainly seemed to be by examination per vaginam as large as the head of a small child. The most valuable point for observation in this operation is the length of time the bladder suffered under the first attempt without sustaining any mischief; and I have satisfaction in thinking that this arose from the great care taken to let no instrument do more than it was intended it should do. I have reason to think that time is of much less consequence than is often supposed in the operation of lithotomy, and a man or a woman had better be an hour on the table than have the bladder either torn or materially injured. Some years ago I operated on a young man of nineteen, who had had a stone in his bladder from his birth, from which he had suffered excruciating torment, the bladder being always nearly empty, and incapable of retaining a couple of ounces of urine. I cut into the bladder and seized the stone in a minute, but it would not come out. I enlarged the opening with as little success;—the bladder greatly thickened, was firmly contracted round it, and processes from it appeared to adhere to the bladder. In 58 minutes it baffled all my efforts, my fore-finger resting upon its sharp processes, which seemed ready to tear the bladder before them. In this dilemma it struck me that I should never get it out, unless I could guard all these sharp points, and keep them away from the bladder as the stone came out. I sent for a very large pair of forceps, very much resembling a pair of firetongs, which I introduced, pushing the stone back before them. I then opened them forcibly, dilating the bladder as I did it, when the stone fell between the blades, and was removed in a moment. I cried out I have found out the use of the tongs, and very happy I was to do so. The stone looked exactly like a piece of coral rock, and was quite as irregular. It is an unique specimen of oxalate of lime. The man was bled the same evening, and never had a bad symptom afterwards, nor a return of his disease. The opening in the bladder in this case was as large as could well be made with safety and certainty, and far exceeded the boundaries of the prostate gland. I attributed his safe and speedy recovery to the care taken to do no violence to the bladder beyond what was always intended to be done. I might perhaps have pulled the stone out within the first few minutes, but I should have lost my patient.

MISCELLANIES.

THE CYCLOPÆDIA OF ANATOMY AND PHYSIOLOGY. Parts II. and III.

We prophecied in our 45th Number, when the first part of this work came out, that, if the writers went on with the same spirit which marked their commencement, the issue would be successful. The two successful parts have convinced us that no diminution of energy, zeal, or talent is visible in the progress of the Cyclopædia. We beg to recommend this Cyclopædia in an especial manner to the profession, in consequence of the great attention which is paid to comparative anatomy and physiology—sciences which are now really deserving of the name, and which are, every year becoming more and more cultivated, because they throw so much light on the anatomy and physiology of the human body.

In the second part, now before us, there are three excellent articles of this kind—one (Animal) Dr. Willis—another (Annelida) by our celebrated countryman, now long domiciliated in a neighbouring kingdom—Dr. Milne Edwards—and the third (Arachnida) by a distinguished naturalist — Dr. Andoin. These three articles alone, are worth the whole price of this se-

a part. But there are several important articles of a directly practical kind, which are worth the prime cost of the whole part. The region of the ankle-joint, in its abnormal condition, is a very instructive paper by Mr. Adams, and well deserving of serious study by young and old surgeons. Anus and Aorta form the subjects of able articles by Mr. Harrison and Dr. Hart.

In the third part, Dr. Andoin's article (Arachnida) is concluded with abundant plates, and, in their order, follow the articles, Arm and Artery,) by Dr. Hart, Pathology of Arteries by Mr. Porter, and Articulation by Dr. Todd, all very ably written, and if not superior, certainly equal to the papers of the preceding numbers. The execution shews that the Cyclopædia or Anatomy and Physiology is no hasty conception, and the complete success of the work may be foretold, from the excellence which characterizes the portion of it already published.

Morrison's Pills.

Scarcely a day passes without instances occurring of serious mischief from the preposterous use or abuse of this quack medicine! These events, however, make but a very trifling and local impression on the few who become acquainted with the facts of the case. It is only when a judicial inquiry takes place, and the attention of the public is attracted to the subject, that much check is given to the suicidal consumption of the nostrum in question. We have good reason to believe that the manufacture of "Morrison's pills" has experienced a considerable diminution by the late inquest and trial at Manchester. We are disposed to think that a blow of no small force has, still more recently, been given to the preposterous manifestos of the Hygeist, by the inquest in Clarence Gardens. A respectable female was persuaded by a neighbour to purchase a box of the universal remedy for a little boy having palpitation of the heart—hypertrophy! The boy, from the elasticity of youth, survived the operation of the *remedy;* but the mother, having an attack of head-ache, concluded, very sagaciously, that what was good for the heart must also be good for the head! She accordingly commenced with the pills, which acted upwards and downwards violently. She was told by her neighbour that the more strongly the pills acted, the more in number she ought daily to take. She increased the dose—and the result was coma and delirium, of which she died.

The body was examined by Mr. Henry Johnson and Mr. Evett, in the presence of Dr. J. Johnson, and the following appearances were noted: the stomach bore some marks of inflammation, especially about the cardiac and pyloric orifices. The duodenum was unaffected. In different portions of the ileum and jejunum, amounting, in the aggregate, to about 30 inches, there were specimens of the most intense inflammation which we have ever observed. The mucous membrane was like mahogany, and the capillaries were, in many places, burst, and the blood extravasated. The inflamed portions joined the sound portions by a marked and abrupt line of demarcation. This, no doubt, was owing to the remora or delay of the irritating substances in certain convolutions of the intestines. In the uninflamed portions of canal there were several rigid contractions. The large intestine was distended with air, and free from disease. The chest and head were carefully examined; but nothing particular was found, except venous congestion of the cerebral vessels.

The jury brought in a verdict of "death by inflammation of the bowels, after taking of Morrison's pills."

There can be no doubt that this verdict was correct. Not that we suppose there is any ingredient in this nostrum of a poisonous nature; but that the venal recommendation to employ the pills in all diseases, leads to such an indiscriminate ingurgitation of them, that a certain *per centage* of death must be the inevitable result.

Here lies the great moral responsibility! What a self-immolated host

of victims must greet the Hygeist on the banks of the Styx, and deafen old Charon himself, while wafting the affrighted ghost to the regions of Tartarus! Poor Mr. M'Kerrell narrowly escaped a verdict of FELO-DE-SE, for taking Prussic acid; and yet thousands of infatuated people, in this country, are not considered insane, although they swallow quack medicines which are as certainly fatal as, though far more painful in operation than, PRUSSIC ACID!

"Quem Deus vult perdere prius dementat."

The verdicts on such occasions, ought, strictly speaking, to be — "Suicide committed during temporary insanity respecting Morrison's pills."

CASE OF AGGRAVATED PUPURA, OR RATHER CARDITIS. By THOMAS MURRAY, M. D. of Trinidad.

This very curious case, with its attendant remarks and reflections, occupies some 20 or 30 pages of the manuscript transactions of the Trinidad Medical Society. We shall endeavour to condense the principal features of the case for the benefit of our readers.

Case. A gentleman, aged 48, robust, muscular, yet of the nervous temperament, of sedentary habits, and temperate in food and drink, was affected with dyspepsy and hypochondriasis in a moderate degree. At the age of 19, he experienced a severe attack of pleuritis—and three years previous to his last illness, a tedious bowel-complaint. His mind had been greatly distressed by mercantile losses, &c. when, on the 1st of September, 1831, he was seized with such a violent emotion, accompanied with difficulty of breathing and sense of suffocation, and determination of blood to the head, that his friends were greatly alarmed. The fit arose entirely from mind, during a burst of indignation. It continued nearly 24 hours. In a few days there appeared on different parts of the body, but especially on the upper and lower extremities, a number of hard, tumefied spots or blotches, for which medical advice was summoned. Mild aperients were given but without effect, and, on the 27th of the same month, a consultation was held, and the following symptoms were noted. The blotches present the appearance of extravasations of blood, varying in size from the palm of the hand downwards. They prevail mostly on the extremities. They are attended with considerable tumefaction and tension, stiffness of the limbs, but with little pain or heat. There was not any fever—pulse weak and undeveloped—occasionally an intermission of the pulse in the right wrist, attributed to a pistol-shot formerly received in that arm. He had no dyspnœa, or other affection of the chest, except a teazing cough. The face was pale, and the tongue "white as cotton." No appetite — urine high coloured—restlessness—sense of suffocation after any mental excitement—extraordinary prostration after the slightest effort—strong presentiment of death. An emetic was first given, and afterwards calomel and colocynth. In a few days, copious bilious stools were procured, with great relief to the patient. Morphine with James' powder at night, to allay the irritability and cough, which it did, and procured sleep for several nights. The patient went on favourably till the 12th October, the blotches having considerably diminished—but cough, debility, despondency, irritability, and anorexia remained. Medical consultations, however, were discontinued—the patient left his bed—and began to take daily carriage exercise.

On the 22d of October, he was much worse than usual, and country air was recommended in consultation. On the 26th, the patient was taken suddenly much worse—a consultation was held, and the prognosis was fatal. His pulse was now extremely weak—the cough not very troublesome — the blotches nearly gone — countenance ghastly—great mental anxiety—frequent agitation of the hands and legs—oppression and sense of suffocation — sense of burning heat, like fire, in the chest—unconquerable conviction that he was dying.

He expired on the 29th of the same month.

Examination, 21 hours after death. The abdominal viscera generally present an excessive degree of fat. The liver was enlarged, and the right lobe much indurated. The spleen, intestines, and kidneys were healthy. The stomach was very large, relaxed, flabby, and of a very unhealthy appearance. Several brown, or chocolate-coloured spots were seen in the neighborhood of the pyloric and cardiac orifices. The left lung was universally adherent to the internal surface of the chest. The substance of the lung was not diseased. The right lung was also free from disease. There was fluid in the cavity of the right side. The pericardium appeared healthy, and contained about a table spoonful of reddish fluid. The heart was covered with fat. The pulmonary artery and right ventricles were natural. "The left ventricle was difficult to cut, on account of its thickness and density; and was of a very deep, dark-red colour internally." The aorta being divided throughout its whole length, its internal surface resembled morocco leather by the intensity of its redness." The internal coat of the vessel retained its colour after repeated washings. There was no ossification of the valves of the heart, or of the vessels connected with that organ.

Dr. Murray has appended a series of remarks on this curious and important case, for which we cannot spare room. Many of them are judicious, but some of them are slightly tinged with hypothesis. The case itself will be read with interest, and it will probably excite different reflections in different minds.

TO THE EDITORS OF THE MEDICO-CHIRURGICAL REVIEW.

I beg leave to furnish you with an account of an epidemic of a most fatal character, now prevalent in this mountainous portion of Yorkshire, and should you think it worthy of insertion amongst your valuable and scientific columns, I leave it to your disposal.

It is not my intention to enter into the disquisition of abstruse points of doctrine, and favourite opinions, as for instance malaria, contagion, and the effects and mode of relief produced by blood-letting. It would trench too much upon your columns. I mean to give, in the first place, as a humble observer of Nature, a general description of the manner in which this epidemic develops itself—and in the second place, that treatment which, in my hands, approached the nearest to an efficient control over it; with a few other casual remarks.

The present epidemic first made its appearance in Sept. 1834, at a place called Blackshaw-head; and it seemed limited to this village and its vicinity; but its mortality was great, from one to four deaths occurring in single dwellings, and the systems of treatment adopted, appeared unequal to arrest the fatal consequences of this disease.

The disorder was pronounced to be SCARLATINA MALIGNA; and the chief prophylactics resorted to was, epispastics, purgatives, and febrifuge medicines, with gargles for the fauces. It terminated about January of the present year, and it neither was preceded, or followed by any disease, which arrested the attention in more than an usual way.

Description of Country.—The country is mountainous and bleak, and abounds in heather moors; upon these moors are extensive swamps and numerous turf-pits. Typhus fever is common here in the Autumn and early part of Winter; at one place called Hedge-Hay-Green, which is completely surrounded by moors, the typhus is actually an annual visitant.

Inhabitants. They are hale, athletic, and vigorous.

Blackshaw-Head, which received last year so severe a visitation, has this year escaped with (comparatively speaking) impunity; there have been a few sporadic cases, but they were mild and yielded to passive treatment. In Sept. of the present year, the small-pox and measles were prevalent in the neigh-

bourhood of this village, Heptonstall, and in another the epidemic made its appearance; but those places generally which escaped the small-pox and measles, were visited with equal severity by the epidemic; this village however was not visited by small-pox, but only four strongly developed cases of the epidemic have occurred in it. The epidemic this year appeared simultaneously at diametrically opposite points of the compass, and in some instances miles from Blackshaw-Head, the place of its appearance last year. This would seem to imply two things. 1st. That it has not occurred from residual-fomites; and—2nd. That it is probable it has not again arisen specifically by contagion.

I am disposed to suspect the present epidemic has arisen in consequence of some peculiar atmospheric constitution, and continues to be propagated through the same medium for a definite period, and that when it is really contagious, or rather perhaps infectious, it is owing to a want of a due attention being given to the cleanliness of the sick, and the free ventilation and fumigation of the rooms in which they are confined.

I am aware this doctrine is recent, and entertain no desire to urge it, because I am satisfied in the arena of argument, there are many gentlemen of our profession, infinitely better qualified to discuss the merits of specific diseases than myself.

This disease has proved here most fatal in the immediate adjacency of the swamps and moors.

The local inflammation of this epidemic, appears chiefly to attack mucous surfaces; viz. the mucous covering of the tonsils, larynx, pharynx and fauces; and the lining of the trachea and œsophagus are not exempt.

The phenomena I am about to describe especially took my attention:—1st. Infants, from a half to three years of age are subject to true cynanche trachealis. 2nd. Children from three to four years of age, up to that of thirteen or fourteen, were chiefly attacked by cynanche anginosa et maligna, with efflorescence and crescents of pimples. 3rd. That adults were affected with cynanche, accompanied by peculiarities I never before observed, viz. independent of either pustules upon the cuticle, or efflorescence. The cynanche either rapidly destroys the patients, or if they survive a brief but acute stage of common inflammatory fever, with a highly phlogosed state of some portion of the internal throat, it terminates in deep seated ulcers, and death takes place in the typhoid stage, or perhaps more correctly in that of collapse.

But it must be admitted that adults have been the subjects, contemporary with the cynanche, of both efflorescence and pustules; and, on the other hand, I have seen several cases of children labouring under ulcerous cynanche in the absence of both pustular eruption and efflorescence.

There is one point which is perhaps entitled to a moment's notice. I have in several distinct instances, witnessed in the same residence, infants attacked by cynanche trachealis, children, the subjects of scarlatina maligna, and adults affected by a violent form of cynanche, exempt from efflorescence and pustular eruption.

Symptomatology. This is probably the most interesting part of this paper. The mode in which this epidemic has developed itself in different subjects is, and has been, exceedingly diversified and various; in mild cases (I am not about to allude to infants affected with croup) of scarlatina in children, there is merely the efflorescence and sore throat, with a moderate stage of excitement and collapse, ulceration being absent.

At other periods the inflammatory stage was so vehement, accompanied by tumefaction in the throat, that an end was put to existence within forty-eight hours. Under other circumstances, the local inflammation quickly terminated in ulcers, and the patient expired in the stage of collapse, with blackened mouth, weak and feeble pulse, and delirium, betwixt the third and seventh day. And again, in the series of morbid developments, it is not uncommon to visit cases, where the sore throat en-

tirely precedes either oppression, excitement, or collapse.

I now come to describe a mode of development which may seem rather extraordinary, but not more extraordinary than true. I am in the habit, Sir, of lending your Review to non-professional gentlemen, and should this paper have the fortune to appear in your scientific columns, their testimony will fully bear out the integrity of my statement.

I shall simply relate one or two instances from a considerable number. I was one evening requested by the parents of a girl, 13 years of age, to pay her a visit. Upon my arrival at her residence, I was informed that the patient had followed her diurnal avocations up to within two hours of her indisposition, and this without any premonitory symptoms. She became delirious, with pain in the head and flushing of the face. By prompt treatment this was subdued, and subsequently she passed through the various stages of the epidemic.

In another case, I was desired to visit a young man, of ordinary constitution, and independent of any anterior symptoms. He was seized with an affection closely resembling emprosthotonos. The patient afterwards passed through the epidemic.

The next and last case I shall narrate is that of a young woman, who, unwarned, as far as enquiry could enable me to discover, was the subject of several strong convulsion-fits, accompanied by much motion of the right extremities, and violent screwing of the pterygoid and masseter muscles of the same side; upon the subsidence of these her throat became sore.

In the children affected by the epidemic, many of them were much annoyed by a sero-mucous stillicidium from the nares, which excoriated the skin with which it came in contact; and a majority of them, after the seventh day of the disease, were the subjects of anasarcous infiltrations.

Treatment. In this district, the passive treatment is that which is held in most esteem, and is entirely acted upon by the profession; but it is my firm conviction it is not the true one, and the practice has not progressed in the estimation of the inhabitants, nor can this be a matter of surprise, when we take into consideration the exceeding number of deaths that have occurred under it. I can conscientiously affirm that, according to the closest investigation, I could give this point, in this district, the success attending the treatment of the present prevailing epidemic, has been precisely proportioned to the promptness and vigour of the practice adopted within the first 30 or 40 hours. In seventy cases of this epidemic, which occured promiscuously in my practice, the most prompt antiphlogistic treatment was adopted, and not one single case proved fatal.

I am perfectly aware of the two what are called sheet-anchor reasons, which induce our contagionists, "ad extremum," to abide by the passive treatment:—1st, They take up this position—if you deplete where pustules and efflorescence exist, you will repel them, and, by obstructing the course of Nature, produce the most serious consequences. 2d. If depletion be resorted to, where the pustules and efflorescence are absent, such a condition of debility will be the result, that the patient will die in the stage of collapse.

These two objections may be answered with facility. To the first—it is the fact, that slight febrile action is sufficient to develop the eruption, and this is frequently manfest in children, who are so leniently visited with scarlatina, that they might be designated "walking cases;" and, consequently, where there is tempestuous action in the arteries, it ought to be sufficiently moderated. And, in reply to the 2d—it can be confidently relied upon, that where the antiphlogistic practice is efficiently acted upon within the first 40 hours, one of the three following effects are obviously perceptible:—

1st. The disease is abruptly terminated, and the patient recovers.

2nd. The stage of common inflammatory excitement, accompanied by

local specific inflammation, is converted into one of simple excitement, with a subdued form of inflammation.

3d. Or if the stage of collapse does come on, with ulceration, it is exceedingly mild, and there is a material diminution of the destruction of tissue.

The plan of treatment I have acted upon is simply this, whether it be in children labouring under scarlatina maligna, or adults with the epidemic sore-throat: I first ascertain whether it be the phlogistic stage—if I discover this to be the case, I immediately open the jugular, or one of the veins in the arm, and permit the patient to bleed "ad deliquium animi," or until observable pallor takes place. I subsequently, the patient being in his bed-room, and unclothed, order his legs to be immersed in water, (commixed with 5 or 6 tablespoonsful of mustard) previously heated to 100° of Fahrenheit, for the space of 10 minutes; during this process, the patient should have over his shoulders a blanket.

After a lapse of six or eight hours, if the patient should not have experienced manifest relief, and the stage of excitement continue severe, accompanied by considerably impeded deglutition, with a sense of stricture and horror of suffocation, it must be left to the discretion of the professional attendant, whether or not it be again proper to let blood; I have only met with one case requiring the use of the lancet a second time, but the application of leeches, nearly at all times, is indispensable, in order to conquer the residue of the inflammation—to an adult, I should not recommend the application of fewer than twenty of them, quite new and fresh ones, with fomentations after the operation; the bleeding should be encouraged for the space of an hour. It is by no means unfrequently necessary to repeat the application, even a second and a third time; but their number must be regulated by the judgment of the practitioner. Vesicatories are not to be omitted—they are no mean auxiliaries, and their effect in aiding the subduction of the inflammation in the throat, is such as will admit of little disputation.

What I am anxious most humbly to advocate is, the *vital* importance of prompt and decided practice within the first 30 or 40 hours, for herein consists the recovery or destruction of the patient. It is, indeed a truth. I have been called to visit patients, where the stage of excitement was terminating in that of collapse; in these cases, ulcers were forming, or had formed, either upon the tonsils or adjacent parts. Now, under circumstances of this nature, it would undoubtedly be imprudent to resort to the lancet; at this period, I entrust the chance of reclaiming the patient to a prompt use of the leeches, succeeded by a strong vesicatory. Ten cases of this nature have come under my own personal observation. I do protest it is astounding to witness the success of this practice, where the parts were in a state of inflammation ending in ulceration; by the application of 16 leeches, the inflammation has been reduced as by a spell, and the advantageous results have been perceptible, in the prevention of further destruction of tissue, a curtailment of febrile action, and restoring the patient from a state of agony, to one of security and repose. When the functions of the encephalon are materially deranged, with flushing of the face and pain in the head, I order the hair to be shaved away, and the patient to lie without cap, &c.—If I conceive it necessary, I order the scalp to be covered with cloths wrung from cold vinegar, until the sensorium be rendered calm. I have practised this in twelve cases, where the body has been suffused with a glowing efflorescence, and in one case only was the efflorescence repelled. In this case the pulse faltered, oppression at the præcordia came on, accompanied by squalor. Perceiving this I administered æther, laudanum, ammonia, spiced hot wine, and brandy and water;—in addition to these agents, I caused the hands and arms to be enveloped in hot flannel, and bricks heated to be applied to the soles of the feet. In the space of 6 hours, the efflorescence was restored completely, a certain degree of febrile action again recurred, but in a minor way, and the temperature of the head

became inconsiderably raised beyond what is natural, and the patient passed through the disease and recovered.

In addition to the foregoing treatment, it need not be stated that potent febrifuge medicines, in conjunction with gargles, are indispensably requisite.—When, however, the typhoid or actual stage of collapse has taken place, the common mode of prescribing, under such circumstances, I presume to be the best.

I feel I have occupied more space than you could afford upon ordinary occasions; but the fatality of the epidemic, and the passive mode of treatment here so universally acted upon, has induced me much to exceed the limits I intended to have observed.

That this doctrine and practice are new I am not about to maintain; on the contrary, in the most candid and honest manner I wish to state, that amongst the various authorities I have consulted upon this disease, or diseases approaching the nearest to it, I have derived the most satisfactory and practical information from the writings of the eminent late George Fordyce upon cynanche anginosa, and the "Practical Illustrations of Scarlatina" by the celebrated late John Armstrong, whose lectures I have had the honor of attending.

The Blood. It is no uncommon thing in this epidemic for the blood, when drawn, to put on the ordinary characteristics of an inflammatory diathesis of the system, that is, from high vascular action a portion of the coagulum of the coagulable lymph would form upon the remaining red portion, and give it that appearance which is ordinarily designated the buff; but, on the contrary, it cannot be denied that it is equally common for the blood to give no such indication.

The crassamentum, however, is commonly firm—considerable in its proportion to the serum—and of a tenacious quality.

The practitioners of large and crowded towns and cities may say this practice would not be applicable with them; that it would be inexpedient and dangerous to adopt it. Of course this will remain for them to decide; but I have detailed a practice which, in this district alone, can at the present period be confided in.

The last two nights we have had frost, and no fresh cases have occurred in my practice.

I am, Sir,
Your obedient & obliged Servant,
ROBERT HOWARD,
Heptonstall. Surg. &c.

CASE OF FRACTURED RIBS, RUPTURE OF THE LIVER — FORMATION OF BILIARY CONCRETIONS IN LACERATED PARTS, &c. By E. FAZELY, M. D.

We have been favoured with the perusal of the Transactions of a Medical Society in Trinidad, by our friend Dr. Ferguson of Windsor, and shall select some particulars from those papers, that are of general interest to the profession. The case at present under consideration, is a most extraordinary one—but we shall greatly abridge the details.

Case. Mr. R. J. aged 42, commanding a corps of militia cavalry, in the above colony, was thrown from his horse, and the animal trode on his his chest with his hind legs. He continued for some time faint and nearly insensible. When removed to a house, and laid on a sofa, he remained in fainting fits, with ghastly countenance, depressed pulse, cold perspiration, &c. In this state he continued three hours, viz. from two till five o'clock of August 1, 1819. He remained without medical assistance till next morning, when Dr. F. visited him, and found him in nearly the same state as above described. He was in so depressed a condition, that no medicine was given this day (2d Aug.) and he passed a bad night. Some slight re-action commenced in the night, and on the morning of the third there was fever. It was now found that two of the true ribs, and all the cartilages of the false ones (right side) were fractured and driven inwards. He complained of cutting pain on each inspiration, and could not bear the slightest pressure on the parts. He was bled to fourteen ounces, when he fainted. The blood was very in-

flamed. He was much relieved by this detraction. Castor-oil, in small doses, was given till the bowels were opened. During the night of the 3d, reaction again increased to a great height. Aug. 4th. There are pain and oppression across the epigastrium—hard pulse. Bled to faintness at 8 o'clock in the morning. Relief followed till the afternoon, when the bad symptoms returned. Bled again to fainting, and the bowels were opened. Passed a better night. 5th. All the severe symptoms in full operation this morning. Bled to fainting, which required 15 ozs. Could not yet bear any bandage round the chest. Gave him this night a few black drops. He had little sleep. 6th. The same reaction, pain, and oppression as before. Bled to 14 ounces, and syncope, with the usual relief. No bandage could yet be borne. 7th. The patient thought himself better, but looked very ill. Took some castor-oil, and a large blister was applied over the epigastrium. Complains of fulness and swelling in the right iliac region. Refused to be bled. 8th. Much the same. Again refused to be bled. 9th. Dr. T. was sent for in great haste to bleed the patient by his own request. This was done to faintness, and with much relief. In the evening, however, all the bad symptoms returned in full force, and again he was bled to syncope. He was now very low, and little hope was entertained of his recovery. 10th. He was much better. The relief from pain and oppression continued longer after the last bleeding; but still it was evident that great internal injury had been sustained. He had had more or less of hiccup throughout the complaint. Leeches applied this day to the chest. 11th. No alteration. He feels more confidence. 12th. A slight increase of the bad symptoms, and he was again bled to syncope, which occurred when 10 ounces were drawn. He now thought himself dying, and, indeed, appeared to be near his end. But, on taking some nourishment, he rallied, and went on well till the 23d, when a bandage was applied loosely, for the first time. It produced great comfort. Nothing particular occurred till the 21st of September, wheu he began to move about, but could not ride on horseback faster than a walk.

In the year 1823 he went to England, where he remained about six months, and returned in much the same state—always remarking that "there was something wrong inside of him," although he had evidently recovered his original fulness of habit.

1827. For the last year or two he had several attacks of pleuritic inflammation, attended with fever. His skin was now permanently yellow. In August of this year he had an unusually severe attack, for which, as for the others, he was bled, with relief. On the 24th September, same year, he experienced a severe attack, attended with much irritability of stomach, and a deeper yellowness of skin. Dr. Anderson joined in consultation, and calomel was prescribed in small doses, with blisters to the epigastrium. He returned to the country, and became completely jaundiced, with scarcely any bile in the motions—a circumstance, by-the-bye, which had long been noticed. Great restlessness now came on with hiccup, nausea, and vomiting, &c. Dr. F. was convinced that all these symptoms were connected with the original injury, and that there was now organic disease of a fatal nature going on. Drs. Neilson and Keith were called in, but he lingered till the 25th October, 1827, when he died.

26th. The body was examined this day, in presence of Dr. Keith. 1st. The fractured ribs had all united, one end riding over the other. 2d. The liver was adherent to the parietes of the abdomen. 3d. The right lobe of the liver had been ruptured throughout its whole length and substance, from the anterior to the posterior part. 4th. There was a broad and large cicatrix along the course of the laceration, about the size of the little finger, and of a cartilaginous, or soft horny texture, when cut into. At the depth of half an inch, in this cicatrix, they came to a wall of quadrangular biliary concretions, which completely separated the lobe of the liver, in the direction of the cicatrix. They were about 50 in number—those in the middle of this wall or partition being much larger than

those near the boundaries of the said wall. The stomach and bowels appeared healthy. The gall-bladder was flaccid and empty. The calculi was adherent to the sides of the iliac fossa, and was thickened and indurated, with appearances of ulceration and morbid excrescences on its internal surface. Many of these diseased growths were also apparent in the neighboring parts.

The above case is certainly very curious and interesting, and the treatment was so bold and judicious, that the patient clearly owed eight years of his life to the skill of his physician.

OBITUARY.

SIR DAVID BARRY.

We have to announce, with sincere regret, the demise of a highly talented and respected member of our profession, since the last number of our Journal went to press! Those who were personally acquainted with Sir David Barry—and he had an extensive circle of acquaintance—will long remember the varied acquirements, (professional and general,)—the great facilities of communicating information—the ready talent for discussion of any subject, whether in the offensive or defensive—the wit, the humour, and the satire, which were always at his command! Yet thosewhowere foiled bythe strength of his arguments, or the ingenuity of his reasonings, never felt hurt by the wounds which he inflicted, so tempered were they by the perfect good humour that accompanied them, and the gentlemanly terms in which his strictures or criticisms were conveyed. He was the life of every medical society which he attended—and of every private party in which he appeared. His public career is well known. He distinguished himself, as an army-surgeon, in the Peninsular campaign; his researches on the circulation and on poison, in Paris, are before the public;—his mission to St. Petersburgh, by order of Government, to investigate the nature and march of cholera—his subsequent appointment at the Cholera Board, &c. are too recent to require particular notice. Although a contagionist, in respect to the late epidemic, his views were rational and moderate, as compared with some of his brethren. When the ORIGINAL BOARD, composed *chiefly* of learned collegiate Thebans, not one of whom had ever seen a case of the disease, fell to pieces under its own weight, Dr. Barry, in conjunction with Sir William Russell, issued a code of instructions something in accordance with the 19th century, and not on the model of the BLACK DEATH and PLAGUE DOCTRINES, promulgated by the preceding collegiate Board! He ordained no "*cordons sanitaires*"—no buckets to be suspended from windows for receiving provisions—no private fortresses to be erected, to insulate one neighbour from another! Sir David probably thought, in accordance with many other conscientious individuals, that it was most safe to err (if it was an error) on the side of contagion, striking off all vexatious quarantines and prohibitions of intercourse in this great commercial nation. The good effects of this liberal view of the epidemic have been abundantly manifested. This country has experienced a comparative immunity from cholera, while other less enlightened nations have suffered more from the blind restrictions imposed on the inhabitants than the disease could have possibly inflicted!

But this by the way. Sir David Barry having finished his labours in this department, and being honoured with knighthood, was subsequently employed, under Government, as a Commissioner of inquiry respecting the state of his own unfortunate country—IRELAND.

He had only recently returned from this mission, when his life approached its close! On Tuesday, the 3d of November, he dined out, and ate some pears, nuts, and other matters of difficult digestion. He was in good health and spirits. On Wednesday morning he was on his way to the City, when he was suddenly seized, under the Arcade of the Opera House, in the Haymarket, with a violent pain in his stomach and loins—faintness—chilliness—and collapse. He was carried into a shop, and sent over for Dr. Johnson immediately. Dr. J. being out, Mr. H. Johnson went to his assistance, and

found him in the abovementioned condition. His pulse was small, and he considered himself as dying. He was anxious to take an emetic, which was not agreed to. He was conveyed home in a hackney-coach, and put to bed. Dr. Johnson saw him in half an hour. He was still a little chilly, but heat was returning to the surface, and the pulse was beginning to develop itself. He attributed his sufferings to the indigestible substances he had eaten, and begged to have an emetic. Dr. J. would not agree to this, considering that the matters eaten the preceding day had now passed into the bowels, and ought to be carried off by stool. He instantly gave the patient one grain of opium and four of calomel, to be followed, in two hours, by a warm purgative mixture, taken in divided doses till the bowels were freely opened. Dr. J. returned in an hour, and found Sir David much relieved. The pain was diminished, the pulse natural, the skin warm. He had no cough, no oppression at the chest, no tenderness on pressure in any part of the abdomen. The aperient mixture was commenced at four o'clock, and Mr. M'Intyre administered an enema which was retained. Dr. Copland joined Dr. J. and Mr. M. at half-past eight o'clock. Three doses of the medicine had been taken without effect. A large enema of warm water, salt and oil, was now thrown up, and the bowels were copiously evacuated by two or three motions. The pulse was now about 84, and rather full. He was a little sick, and brought up the last dose of medicine without straining. He now felt much better, and began to lose the impression that he was dying. The medical attendants staid with him till half past ten, leaving an anodyne with him, in case hypercatharsis (of which he had a dread) should come on. He remained quiet till one o'clock, when he got up to the night-chair, and instantly expired!

The body was examined by Mr. H. J. Johnson, and Mr. C. Johnson, in presence of Dr. Copland, Mr. M'Intyre, Dr. Johnson, and others. The layer of fat on the abdomen was of remarkable thickness. Nothing unhealthy presented itself in the abdomen. The ribs were ossified. On cutting into the right side, an immense gush of clear serum came out, and impressed us with the idea that he died of hydrothorax! On prosecuting the dissection, however, we found large coagula of blood, the whole effusion of hæmorrhage amounting to full five pints. The left ventricle of the heart was greatly hypertrophied, being full an inch in thickness. The valves were sound. The aorta was dilated from the arch downwards, and an aneurism was found near where the vessel passes through the diaphragm, larger than an orange. This had burst into the posterior mediastinum, and the blood ultimately made its way through the pleura into the right cavity of the chest, where it suddenly destroyed life.

Thus the whole mystery was cleared up. The aneurism had burst while Sir David was walking down the Haymarket; but the hæmorrhage producing faintness, was confined to the posterior mediastinum, causing the pains which he experienced during the next twelve hours. But while on the night-chair, at one o'clock, the grand gush took place into the chest, producing instantaneous death. It is fortunate that the emetic was not given, as there is almost a moral certainty that the patient would have died during its operation. And even if an examination had been permitted, there would still have been great doubt whether the aneurism had not burst in consequence of the vomiting!

This is another instance of the little inconvenience, which fatal organic diseases sometimes produce till near the final termination. Sir David Barry dined out on Tuesday, and was the gayest of the gay—at a time when there was hypertrophy of the heart, dilatation of the aorta, and thoracic aneurism! This highly-gifted physician was in the 56th year of his age, and in full vigour of intellect. About four or five years ago, he requested Dr. Johnson to examine his chest with the stethoscope, as he suspected he had some affection of the heart. Dr. J. could not then detect any disease, but advised Sir David, as he was very much inclined to corpulency, to adopt a spare system of diet by way of precaution. There is reason to believe that this advice was

not followed, as Sir David was fond of good eating and drinking, though he never went to excess in either.

DR. WARREN.

In addition to the death of Sir D. Barry, we grieve to announce the decease of Dr. Warren—at the age of 58, by organic disease of the liver. We have long been professionally acquainted with Dr. Warren, and we have always found him a man of upright and honorable character. He was not so mild and polished in his manners as Dr. Maton; nor was he so punctual in his engagements; but he never took the advantage of his name and rank in the profession, to hurt the feelings of his junior brethren, or deprive them of the confidence of patient or friends. We wish we could say as much for all the medical magnates!

Dr. W. was a shrewd practitioner, of great experience; but one who had left the improvements of the last twenty, or even thirty years, in almost total neglect. Modern pathology he either despised, or left comparatively unheeded. The *latter* we believe to be nearest to the truth. If he ever adverted to any recent discovery or improvement (we mean in anatomy, physiology, pathology, or diagnosis) it was to afford matter for a joke or a sarcasm, in his dry and caustic manner. He had a good deal of humour about him, and every ebullition of it was preceded by an unusually large pinch of snuff. The ordinary doses, however, of this weed were great and frequent—the daily consumption must have been prodigious! His dress was slovenly—and his linen seldom redounded to the reputation of his laundress. The plainness of his exterior corresponded very much with his moral manners. The meanest observer became convinced, in the course of his observations, that he was destitute of—HUMBUG. This very circumstance greatly enhanced his reputation. There is not a more erroneous notion in existence than a prevalent one, that the public may be humbugged *ad infinitum*, by dextrous skill on the part of the medical practitioner. The trickery lasts for a space of time corresponding with the talent of the actor; but the bubble bursts sooner or later, and demonstrates the truth, that nothing but honesty, ability, and industry will finally triumph in the practice of medicine.

Honesty, and a fair share of natural ability, sustained Dr. Warren in extensive practice till the end of his life—certainly without the aid of any other industry than that of attending his patients, and collecting his fees. He has left nothing on record that has conduced to the benefit of his profession, or that can float his name, even for a month, on the tide of time. This was more owing, perhaps, to the class than to the individual. There is a certain proportion (we do not say a majority) of those who have imbibed large potations of aristocratic pride and port on the banks of the CAM and the ISIS, and who are afterwards so wrapt up in their own dignity, that they shrink from collision with their plebian brethren, and abhor any other competition than that which is connected with the GUINEA TRADE. It is true that, among this section of the CANTABS and OXONIANS, a few are goaded by the stings of penury, to enter the field of science, and manfully compete with high and low in the ranks. We regret to say that some, even of these, when the pressure of adversity is withdrawn, shrink back within the narrow sphere of their own importance, ashamed, as it were, of having exposed their ORDER to contamination with the vulgar herd, and to the shafts of criticism or ridicule during the contest.

These reflections are not levelled at our deceased contemporary. Dr. Warren was any thing but a proud man—any thing but a courtier. He was a prickly pear outside, but a pine-apple within. That INDOLENCE which prevented him from taking any but the passive exercise of a close carriage, and which, doubtless, led to the formation of those organic changes which terminated his life, was probably the cause why he carried with him to the grave a mine of valuable facts and observations, which would have enriched the archives of medical science, had they been communicated to the world.

It is surely the bounden duty of every man who has been carried forward to riches and reputation, in the medical profession, to repay a part of the debt which he owes to that profession and the public, by contributing something to the good of both. The excuse which we have heard made, that medical literature is oppressed by a host of sciolists and scribblers, is any thing but valid. This is the very best of reasons why men of talent, and wide experience should diffuse the results of their observations among their brethren, in order to correct, or at least, neutralize the deleterious effects of false facts and futile theories. He who does not adopt and act upon this precept and principle, may accumulate a princely fortune, but he dies a bankrupt in science, and a debtor to the community.

PROFESSOR TURNER.

It is with feelings of the deepest regret that we record the death of Mr. John William Turner, Professor of Surgery in the University of Edinburgh, after a short, but severe illness, brought on by exposure to wet and cold during the stormy night between Sunday 25th, and Monday 26th ult. Mr. Turner was called out of bed on that night, in the discharge of his duty as one of the Surgeons of the Royal Infirmary, and was detained upwards of two hours in wet clothes. He was unwell from that time, but did not confine himself, and continued to be occupied with his professional visits, and latterly with the duties of his Class of Surgery, till Friday, November 6th. From this period, his complaints, which at first assumed a dropsical tendency, became more complicated and aggravated, till Thursday, November 12th, when the relief he experienced from the remedies employed, encouraged his anxious family and medical attendants to indulge the hope that his valuable life might yet be spared; but this relief was of short duration, and after a few more days of severe illness, he died on the evening of Thursday, November 19th, deeply lamented both in his private and public capacity. He is succeeded by Sir Chas. Bell.

BIBLIOGRAPHICAL RECORD;

OR,

Works received for Review since last Quarter.

1. Manual of Pathology, &c. By L. MARTINET, M.D. Translated from the French, by JONES QUAIN, M.D. with Alterations and Additions. Fourth Edition, revised and enlarged, 12mo, pp. 443, price 7s. 6d. Sept. 1835.

☞ *This edition of a most valuable pocket companion, is very much enlarged and improved.*

2. A Treatise on the Functional and Structural Changes of the Liver, in the Progress of Disease, and on the Agency of Hepatic Derangement in producing other Disorders; with numerous Cases, exhibiting the Invasion, Symptoms, Progress, and Treatment of Hepatic Disease in India. By W. E. E. CONWELL, M.R.I.A. Surgeon of the Madras Establishment, &c. Octavo, pp, 531. James Duncan, Paternoster-row, Sept. 1835.

3. A Series of Botanical Tables, and Tables of the Materia Medica, designed for the Use of Students preparing for Examination at Apothecaries' Hall. Illustrated with numerous Engravings on Wood, and four coloured Medico-botanical Maps of Europe, Asia, Africa, and America, shewing the Geographical Situation of all the Plants of the Pharmacopœia. By W. K. TOASE, F.L.S. Lecturer on Botany and Anatomy. Quarto, Longman and Co. 1835. Price 4s.

4. The Anatomy of the Regions interested in the Surgical Operations performed upon the Human Body; with occasional Views of the Pathological Conditions which render the Interference of the Surgeon necessary. In a Series of Plates engraved on India Paper, the Size of Life. By J. LE-

BAUDY, M.D. with Additions. Quarto, Parts I., II., and III. Bailliére, Sept. 1835. Price 1*l.* 4*s.*

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5. A Popular Treatise on Diet and Regimen; intended as a Text-Book for the Invalid and the Dyspeptic. By W. H. ROBERTSON, M.D. Octavo, pp. 251. Chas. Tilt, Sept. 1835.

A good Work.

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☞ *This is re-printed from the Edinburgh Journal, and is a very excellent monograph on an important subject.*

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11. A Treatise on the Causes and Cure of Stuttering, with reference to certain Modern Theories. By JAMES WRIGHT, Esq. late of Magdalen Hall, Oxford. Duodecimo, pp. 51. Whittaker, 1835.

☞ *Some useful hints may be gleaned by stammerers from this little treatise.*

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12. Gregory's Conspectus. A Literal Interlinear Translation of the first ten Chapters of Gregory's Conspectus Medicinæ Theoreticæ, with the original Text. To which are added, the Ordo Verborum, and Rules for construing, &c. By ROBERT VENABLES, A.M. M.B. Oxon. Duodecimo, pp. 122. Sherwood and Co. Oct. 1835.

☞ *This is a capital grinder for the "Hall," at the trifling expence of four shillings and sixpence.*

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13. Practical Anatomy of the Nerves and Vessels supplying the Head, Neck, and Chest; intended as a Guide for the Use of Students in the Dissection of those Structures. By EDWARD COCK, Demonstrator of Anatomy at Guy's Hospital. Small 8vo, pp. 242. Schloss, Great Russell-street, Bloomsbury, price 7*s.* Oct. 1835.

☞ *The portion of anatomy to which Mr. Cock has here directed his attention, is very difficult to learn or demonstrate. The author's plan of prosecuting the dissection of these intricate parts appears to be very judicious.*

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☞ *This part is worth three—four times its price—containing the pathology of diseases of the chest. We recommend this important and cheap work to the library of every medical practitioner.*

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27. The Principles and Practice of Obstetric Medicine, in a Series of Systematic Dissertations on Midwifery, and on the Diseases of Women and Children, illustrated by numerous Plates. By Dr. DAVIS. Part 43, pp. 44, and three Plates—Part 44, pp. 30, and one Plate, price *Sixpence!*

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28. An Inquiry, Physiological and Pathological, into the proximate Cause of Cholera. By FREDERICK SMITH, M.R.C.S. Senior Surgeon to the Farringdon Dispensary. Octavo, pp. 39. Bailliere, Nov. 1835.

☞ *An ingenious Essay; but the proximate cause of cholera, and, indeed, of any disease, requires the sword of an Alexander to cut the Gordian knot.*

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☞ *This little volume contains a vast mass of information, extremely useful to the profession generally. The tabular views of diseases are very curious and instructive.*

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33. A Manual of Practical Midwifery; containing a description of Natural and Difficult Labours, with their Management. Intended chiefly as a book of Reference for Students and Junior Practitioners. Illustrated by 15 Engravings. By JAMES REID, M.D. formerly House-Surgeon of the General Lying-in Hospital. Duodecimo, pp. 246, price 5s. 6d. Churchill, Dec. 1835.

*** *If a* VADE MECUM *is at all allowable in the practice of medicine or surgery, it is in that department called Obstetricy, where one or two lives depend on the right step to be pursued, at the moment, and where the practitioner dare not leave the room of the patient to consult men or books.*

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34. A Report on Small-pox, as it appeared in the Island of Ceylon, in 1833–34, with an Appendix. By J. J. KINNIS, M.D. 8vo, pp. 88, with plates, plans, &c. Colombo, 1835.

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35. A new and complete Manual of Auscultation and Percussion, applied to the Diagnosis of Diseases. By M. A. RACIBOROLI, M.D. Paris. Translated by WILLIAM FITZHERBERT, B.A. Cambridge. Small 8vo, pp. 204. With a Synoptical Table, &c. London, A. H. Bailey and Co. Cornhill. Dec. 1835.

*** *We have no hesitation in saying, that this is decidedly the best, as well as most concentrated, Manual of Auscultation and Percussion in the English, or in any language.*

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36. The Cyclopædia of Anatomy and Physiology. Part 4. Dec. 1835.

*** *The principal contributors are Drs. Benson, Hart, Harrison, Edwards, and Babington. Messrs. Owen, W. T. Brande, Phillips. This Part comes down to* "BLOOD," *morbid conditions of the. We have spoken of the work in another place.*

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37. Lithographic Portrait of M. TIEDEMANN, Professor in the University of Heidelberg. Published by M. Schloss, 2, Great Russell-street.

*** *A striking likeness of this veteran and eminent physiologist.*

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38. A Lecture introductory to the Study of Medical Science, delivered at the opening of the Medical Classes of the Andersonian University, Session 1835-6. By ROBERT HUNTER, M.D. Octavo, pp. 32.

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39. A Practical Treatise on Midwifery, containing the result of sixteen thousand, six hundred and fifty-four Births, occurring in the Lying-in Hospital during the period of Seven Years, &c. By ROBERT COLLINS, M.D. late Master of the Institution. Octavo, pp. 528. London, Longman and Co. 1835. *** *In our next.*

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40. A Series of Anatomical Plates. By J. QUAIN, M.D. Fasciculi XXII. to XXX. price 2s. each. Division 2—Arteries 6.

*** *Most admirable Plates for the Anatomical Student.*

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41. A Synoptical Chart of the Diseases of the Eye, classed according to their various Tissues, and the latest Nosological Arrangements, &c. By J. H. Curtis, Esq.

*** *This is a more scientific chart than its predecessor on the ear, which is saying a good deal for it. Much pains have been taken in the nosological arrangement.*

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42. A Treatise on the Diseases of the Eye and its Appendages. By RICHARD MIDDLEMORE, M.R.C.S. Surgeon to the Birmingham Eye Infirmary. In two vols. pp. 1644. Longman and Co. Dec. 1835.

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43. Rudiments of Physiology. By Dr. FLETCHER. Part I. on Organism. 8vo, pp. 155. J. Caffræ, Edinb. Nov. 1835.

Closed on the 18th Dec.

THE

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No. XLVIII.

[NO. 8 OF A DECENNIAL SERIES.]

JANUARY 1, TO APRIL 1, 1836.

A Practical Treatise on Urethritis and Syphilis; including Observations on the Power of the Menstruous Fluid, and the Discharge from Leucorrhœa and Sores, to produce Urethritis: with a Variety of Examples, Experiments, Remedies, and Cures. A new Nosological Classification of the various Venereal Eruptions; each Order illustrated by Coloured Plates, and exemplified by numerous cases; and a Proposal of a Substitute for Mercury. By *William Henry Judd*, Surgeon in his majesty's Fusileer Guards, &c. &c. Octavo, pp. 568.

We cannot compliment Mr. Judd upon his title-page. It is more like an index or a table of contents, than what a title-page should be. Did we not know Mr. Judd to be a highly respectable surgeon, we should suppose we were perusing the announcement of some popular work by Mr. Goss or Mr. Van Butchell—gentlemen so humane as to be ever on the watch to in, form the public where the most unmentionable maladies may be safely, surely, and expeditiously cured, "without caustic, cutting, or confinement." Mr. Judd is evidently unused to authorship, and we doubt not that he will avoid this unintentional error on a future occasion.

Those who are best acquainted with the venereal disease, will probably be least surprised at the appearance of a new work upon the subject. There is no disease in which the practical and experienced surgeon observes a more decided and irreconcileable discrepancy between what he has read, or has been taught and what he actually sees. Sores exist in books, as seperate and individual things, for which he looks in vain in Nature—and she, on the other hand, displays phenomena which he never finds in books. The besetting sin of most writers on syphilis has been theory. The very last work which has been published on the subject has been ruined by the spirit of speculation that pervades it. The author has almost invariably been employed in fitting the disease to his Procrustian bed.

It would occupy us too long to enter on the causes which have rendered the various works on the venereal either useless or injurious. It is certain

that, for the most part, they convey a very erroneous idea to the inexperienced reader of the nature, the characters, and the treatment of the malady. Some are less objectionable, and some more so, but a good treatise on syphilis and gonorrhœa there is not. It is to supply this acknowledged defect that Mr. Judd has produced the volume before us. From the opening of this preface,it will be obvious that our author comes forward as a nosologist.

"No work (he says) having hitherto issued from the press, so arranging and classifying the various symptoms and numerous eruptions produced by *Urethritis* and *Syphilis*, that the physiological student, or medical attendant, might at once refer to it in order to ascertain the Order, Genus, and species to which any particular venereal affection of the skin belongs;—to learn what has been the general effect of the many curative modes of treatment hitherto employed in each stage;—to enable himself to premise, *à priori*, the probable duration of the affection, and to ascertain what usually have been the suffering and disorganization caused by it, and the termination of the disease in such cases; and the want of such assistance, as also of a nomenclature on the same subject having been frequently experienced by myself during my early studies; I was induced to collect (during the last twenty years) the various notes and cases that form the principal basis of the following pages." viii.

The work is divided into two parts. The first is subdivided into two portions;—the first on urethritis venerea, or gonorrhœa—the second on the cuticula externa, or in other words, an anatomical description of the skin. The second part is broken into five chapters. Of these, the first is on the origin and nature of the venereal disease—the second, on the variety of primitive sores and absorbent surfaces—the third is made up of observations on the various forms of syphilitic eruptions—the fourth is on the most inveterate secondary symptoms—and the fifth is on mercury, and "*on a new remedy*" where mercury fails.

A large, indeed by far the largest, portion of the work consists of cases, usually reported with diurnal details, and arranged without any very apparent regularity or method. In the section, for example, on urethritis, the history and account of the disorder occupy four pages, and the reports of cases ninety-five—a proportion closely resembling the ratio of the sack to the bread in Falstaff's bill.

We shall now proceed without further preface, to the work itself. Where we differ from our author, we shall freely express our dissent, because we believe that too many of the notions propagated and prevailing on the subject of venereal maladies are erroneous, or actually pernicious.

We observed that four pages only are devoted to the subject of gonorrhœa, or, as Mr. Judd prefers to term it, urethritis venerea, We regret this, because there is no good account of this venereal affection. Many of its concomitants, and some of some of its consequences, have not been noticed, or, if noticed they have been so very imperfectly. Yet, short as Mr. Judd's description is, we differ wholly from him in many particulars.

Urethritis, he says, is a primary syphilitic affection, and is tantamount, except as to the structure it invades, to a venereal sore, and even becomes one when it causes, which it occasionally does, ulceration of the lining membrane within the uretha.

This is the revival of the old notion of the identity of syphilis and gonorrhœa. Mr. Judd does not attempt to tell us why there should be such

very broad distinctions between the phenomena, the progress, and the consequences of the two diseases: unless the assertion, indeed the assumption, that it is because the syphilitic virus is in the case of gonorrhœa applied to the mucous membrane, be considered as the explanation in question.

Let us look at this hypothesis a little more in detail. Syphilis affecting the mucous membrane of the urethra is said by these gentlemen to be strangely modified by the nature of the tissue. This might be plausible, if the mucous membrane exerted the same influence in other situations. But undoubtedly it does not. If the syphilitic virus be applied to the lip, we never heard of its occasioning a *labiitis*, but it gives rise to a very orthodox chancre. If the matter of gonorrhœa comes in contact with the mucous membrane of the eye, it occasions in it an inflammatory purulent discharge —the gonorrhœal opthalmia. But in the cases of secondary symptoms, secondary syphilitic ulcerations occur in the conjunctiva, and we have twice seen syphilitic primary sores at its margin.

The mucous membrane of the vagina is the seat of both diseases—gonorrhœa and syphilis. Those who pin their faith on the paramount influence of tissue, would seem to have forgotten this altogether. Yet gonorrhœa and syphilis are as distinctly marked in women as in men. When we look at all these circumstances, we must admit how idle the supposition is, that it is the tissue which makes syphilis in the mucous membrane assume the characters which we know by the name of gonorrhœa.

It will be observed that Mr. Judd makes urethritis become a venereal sore, when it causes ulceration of the mucous membrane. But this is obviously a petitio principii, for he has to prove that it is urethritis which does produce ulceration of the mucous membrane. On this point we join issue with him, for we believe, that it is not simple gonorrhœa, but real syphilis. The argument may be thus stated:—as, in ninety-nine cases out of the hundred, gonorrhœa evinces no tendency whatever to occasion ulceration of the mucous membrane, and as in the hundredth case such ulceration may happen, sometimes with and sometimes without the ordinary gonorrhœal symptoms, it is easier to suppose that this is a superadded affection, than that gonorrhœa should change its ordinary characters.

Mr. Judd proceeds to state very explicitly in what he conceives urethritis to consist.

"Urethritis is an inflammatory affection caused by the irritation of the syphilitic virus from a pustule on the delicate mucous membrane lining the urinary canal, or vagina. Generally its specific action produces a discharge of pus only: but, at other times, it also produces a pustule, or abscess, within the urethra, similar to what it more usually does on the surface, and just like the discharge from a pustule on the glans penis; for the pustule is caused by the same secretion as the urethritis, having its origin with it in common from a venereal pustule, sore, or discharge, in the vagina; and it is the product of pus from either of these ailaments." 2.

When we read the statement that urethritis was primarily a pustule on the mucous membrane, we were naturally curious to see the evidence on which that statement is made. But we must own that we cannot find any, —not even the shadow of a proof. We have never seen such pustules. When patients present themselves with gonorrhœa we cannot discern them, and in two examinations of the urethra which we have had an opportunity

of making after the individual's death, we have found nothing save augmented vascularity of the mucous membrane, for two or three inches down the urethra. We must therefore regard the preceding position as at present quite unsupported.

Mr. Judd states that the syphilitic virus sometimes produces a pustule or abscess within the urethra, similar to what it more usually does on the surface. Unfortunately the language of our author is ambiguous, and we feel at a loss to understand his precise meaning. But we were not aware that the syphilitic virus occasioned an abscess on the surface. In cases of secondary symptoms abscesses occur, but at this moment we do not recollect a familiar instance of abscess occasioned by a primary sore. The following is the case adduced, of abscess produced by the syphilitic virus in the urethra.

Case. William W——te. August 26th, 1818.—Urethitis, which commenced three days after contamination, and also a large swelling situated just under the integument of the body of the penis, and about one-third of its length from the glans.

Pil. Extr. Col. C. ℈. Calomelane.

27th.—The swelling filled with pus, made its way through the corpora cavernosa, and broke internally into the urethra, where it gave out four ounces of blood. Since the abscess burst, the swelling has much diminished, and there is less tenderness on pressure; but pain is felt as the urine flows. This man got well in September without the abscess opening externally.

Now this was clearly a common example of abscess occurring in the cellular tissue of the penis. In inflammatory gonorrhœa, the inflammation constantly extends to the contiguous tissues. Every now and then it spreads to the cellular tissues, and occasions suppuration. But this is an accidental, not a necessary consequence of the gonorrhœa, a result of the concomitant inflammation, not a part of the specific disease. In cases of common inflammation of the tonsils, we not unfrequently have suppuration in the cellular tissue of the palate, the inflammation spreading from the tonsil to it. Abscess of the penis is a case exactly analogous. Mr. Judd has committed the common error of not separating the inflammatory attendants on gonorrhœa, from the disease itself. The former are simple inflammatory complications—the latter a specific disorder.

The last passage in this debatable paragraph, contains the unqualified affirmation, that syphilis and gonorrhœa have the same common origin from a venereal pustule, sore, or discharge in the urethra. The proof which our author offers is a case which we shall quote.

Case. "Mr. W. May 20th, 1825.—Three days after a supicious connexion, a small round pustule, about the size of a pin's head, with much surrounding hardness, was observed upon the penis, just below the glans.

Three or four days afterwards, a second pustule formed near the first, and they were very similar both in size and appearance.

Mr. W. now learned that this woman's first paramour was laid up with venereal sores.

Whilst the two ulcers were healing, Mr. W. was visited by another female, an old acquaintance, and, in the course of her visit at his lodgings, he had not sufficient command to resist her importunities, and actually removed the lint, and had connexion with this second woman. The last-named female had no

ailings (that she ever knew of) produced by the above impure connexion and therefore she some days afterwards had connexion with another gentleman, an acquaintance of mine.

June 15th.—The latter gentleman has applied for advice (in a fright), having pains in both groins, and some enlarged glands in one of them. As he had no sore, it was very doubtful what source of irritation had caused his inguinal glands to enlarge. Leeches and cold lotion were applied, and he was purged.

18th.—The enlarged glands had no sooner been put back than he was attacked by urethritis; hence it is probable that irritation in the urethra had caused the previous pains and enlargement of glands.

There are several inexplicable circumstances attending these occurrences, which led me to keep an account of them. In the first place, no secondary symptoms followed Mr. W——'s sores; and this unfortunatly leaves us uncertain as to their nature being strictly venereal, although he obtained them from a woman whose associate was at the very moment laid up with what the medical attendant considered to be venereal sores, and for them he put him under mercurialization. In the next place, how did the second female, so improperly had connexion with, escape, when he had the two open sores upon him? Lastly, is it possible that the discharge from Mr. W——'s sores was conveyed through the second woman without affecting her; and yet, that the virus from them produced enlarged glands and urethritis in the third person? The facts lead to the following query:—Can a discharge from venereal sores, when applied to the urethra of another person, produce a discharge resembling, or actually being urethritis? I have ample reason to believe that it can, and could offer many cases in proof. And, be it observed, a sore on the verge of the urethra produced discharge, resembling gonorrhœa, in the case herein related of John Brown, he being at the time confined to bed, and certainly he had had no connexion for many preceding weeks; and this is by no means a solitary case." 24.

It will be observed, that the very important position which our author lays down, is supported by only indirect and objectionable evidence. A female's "paramour" has venereal sores. The female herself has connexion with a gentleman, who gets pustules, not followed by secondary symptoms. He has connexion with another female, who is not infected; and she has connexion with another gentleman, who contracts gonorrhœa. Now there is no evidence to prove that either female was diseased; the only conclusive evidence to establish the fact of the pustules in the first gentleman being really syphilitic sores—that is, the occurrence of secondary symptoms, he not being treated with mercury, is wanting also; it is a mere supposition to argue that the matter of venereal sores produced both syphilis and gonorrhœa, when the syphilis is dubious, and the source of the gonorrhœa absolutely uncertain; and finally, the whole chain of evidence is too brittle and too broken to be received as any thing more than a curious train of circumstances, the elucidation of which would require more strict investigation than was made, or, probably, would have been permitted. Testimony in venereal cases is fallacious in the highest degree. The assertion of gentlemen may usually be depended on, because they have nothing to gain by deceit, and truth is with them both a sentiment of honour and a habit. But the testimony of men in the lower classes, and, we regret to say, of females in all, is deserving of far less attention. This is especially the case with the description of females that we have to deal with in venereal cases. In them we usually look in vain for any thing like sincerity or candour. Their habits, inclinations, often their subsistence are grafted on successful false-

hood. They constantly deceive without an apparent object; and where their *character* is at all involved, we must reckon on nothing but thick and thin mendacity. Such is the portrait that experience must draw of the class of females who retail syphilis and gonorrhœa. It would be unsafe to take the hour of the day upon their evidence. It is absurd to support doctrines by their testimony. In the case we have been considering, what proof can be offered, that the second female had connexion with no one, between the *known* intercourse with the first gentleman on the one hand, and with the second on the other? No proof save the word of a whore.

On the whole, we cannot say that Mr. Judd has done any thing to establish this frequently advanced, and frequently rejected supposition—the identity of the poisons of syphilis and gonorrhœa. Time and accurate experiments may eventually prove it. At present, evidence and probabilities oppose it. The phenomena are different, the consequences are different, and the treatment is different.

Mr. Judd proceeds to state, that—

"It is very common for the same person to be attacked by urethritis venerea, and by a pustule, or syphilitic sore, about the time the discharge appears from the urethra, and both caused by one and the same connexion.

The external disease often commences by a pustule, and so situated in the male, that at times it may have been seen to break, to ulcerate, and to reach the lips of the urethra, and thereby its specific discharge to produce puriform secretion from the mucous membrane; in fact, constituting urethritis." 3.

The case to which Mr. Judd refers is the folllowing:—

"John B——n. July 9th, 1832.—A few days after connexion, he found a deep, clean sore between the glans and prepuce. His bowels were cleared by purgatives, and he then underwent a mercurial course, His mouth was kept tender from the 14th of July to the 13th of August. The sore gradually healed at its posterior edge, and extended at its anterior one, until it reached the lips of the urethra, and there it is causing some inflammation.

15th.—A thin discharge has commenced from the urethra, accompanied by scalding, and sensations exactly similar to that of gonorrhœa.

Capiat Bals. Copaibæ ℥ xvj. ter die.
Lotio Plumbi Acet. dilut.

18th.—He has less scalding, but the running continues, and it has become thicker. The sore was dressed within the lips of the urethra with dry lint.

25th.—The orifice of the urethra is swollen and red, and both the discharge and scalding are increased, so as exactly to resemble the symptoms of common urethritis.

Low diet, quiet in bed.
Lotio Plumbi Acet. dilut.

30th.—The irritation has lessened, and both the sore and the urethra are less inflamed.

Solut. Cupri Sulph. comp.
Bals. Copaibæ ℥ xx. ter die.

October 4th.—The sore has healed, but there still is some discharge from the urethra.

8th.—The urethritis has ceased, and he is quite well." 187.

In the preceding case a sore spread from the surface of the glans into the urethra, and occasioned scalding, and discharge from within it. That this was urethritis, that is, inflammation of the mucous membrane, there can be no question. But it does not therefore follow, that it was specific

gonorrhœa. Discharge from the urethra and scalding in the act of micturition may be produced by many causes independent of the agency of a specific poison. An excess in diet will occasion it—we have seen it succeed an attack of lithiasis—a blow will cause it—so will the introduction of foreign substance into the urethra, as a bougie; the retention of a catheter in the bladder, almost invariably inducing it—excessive venery may give rise to it, independently of any disease in the female. One of the most obstinate cases of urethritis we ever had to treat, was after the removal of the nucleus of a lithic acid calculus from the urethra. We employed a pair of forceps to crush the stone, and necessarily irritated the urethra a good deal. Now if discharge and pain in micturition be considered, per se, as conclusive proof of gonorrhœa, then gonorrhœa may certainly be occasioned by whatever irritates the urethral mucous membrane. But how will this agree with the doctrine, that the poisons of gonorrhœa and of syphilis are identical? This is one of the dilemmas into which the supporters of that doctrine tumble. We should say that, in the case of Mr. Judd, the ulcer at the orifice of the urethra gave rise to urethritis, as any other cause of irritation and of inflammation might have done. To deny this it would be incumbent on him to prove that it was a genuine gonorrhœa, that is, that it occasioned the disease in another individual.

It is by no means uncommon for a syphilitic ulcer to invade the orifice of the urethra. If we have seen that once, we have seen it, at the least, a dozen times. But we have no hesitation in saying that it usually does *not* give rise to urethritis. On this point of fact we can speak positively—at least we can do so with respect to the cases that have fallen under our own observation. The most frequent result that we have witnessed, has been a certain degree of contraction at the orifice of urethra. We could relate, were it necessary, half a dozen cases, in which decided syphilitic ulceration at the orifice of the urethra was unattended with urethritis.

If a syphilitic sore, extending to the urethral mucous membrane, occasions urethritis, why does not a syphilitic sore do the same thing in the vagina. If only men existed, we might understand the doctrine of the difference of tissue occasioning some of the distinctions between gonorrhœa and syphilis. But, in women, the same tissue is the seat of both, yet he must be a bungling surgeon, or a very inexperienced one, who cannot recognize the difference between gonorrhœa and syphilis in them.

"When the virus," continues Mr. Judd, "produces urethritis, and pustules or abscesses, in the membranous lining of the urethra, the breach of surface at times leads to secondary venereal symptoms, as venereal pustules or sores on the surface more commonly do." 3.

We understood that urethritis was always produced by "the virus." Why, then, do not secondary symptoms usually follow? When we look over Mr. Judd's cases, we see him treat this syphilitic urethritis by copaiba, not by mercury. How is it then, we repeat, that secondary symptoms are so rare? Mr. Judd seems to imply, that these occur when pustules or abscesses are formed in the urethra. We have looked over Mr. Judd's cases, and we find none to inform us what pustules in the urethra are—nor where they are—nor how they are discoverable. In the absence of this indispensable information, we must pause before we can admit an assertion, unsupported by even the offer of proof.

We have already shewn that abscess in the urethra is a misnomer. It is

abscess of the cellular tissue external to the urethra. As this is merely the result of inflammation, it is not, *à priori*, likely that secondary symptoms should follow it. But we have something better than à priori reasoning to lead us to deny that secondary symptoms do follow it. We have seen many cases of abscess of the penis as a consequence of gonorrhœa—the patients were not treated by mercury, and in *no one instance* did secondary symptoms ensue.

"I am aware," concludes Mr. Judd, "that some still believe the matter of syphilis, and that of gonorrhœa (as they call it), to be distinct poisons: but I cannot overlook the well-known fact, that a woman having a pustule or sore in the vagina, can cause urethritis in one man, and a venereal pustule or sore in a second, that also has connexion with her; and this within a few minutes of each other: although, upon examination she is found to have a pustule or sore only, or simply an elytritis, and perhaps no perceptible discharge at the moment from either. When, again, a pustule on the penis, and an attack of urethritis in the male are common results from one connexion,—and with a female, who on examination is seen to have elytritis only;—when a man who has connection with her, on the third or fifth day, suffers an attack of urethritis, and has within the week a pustule or sore within his urethra, and in some instances, after a lapse of about six weeks, followed by pains, sore throat, eruptions, and confirmed secondary symptoms, bearing exact similitude to the product of the true venereal pustule: these peculiar coincidences are, I take it, proof enough and quite sufficient for the identity of the poisons.

"I know that by a few I shall be censured, and accused of leading my readers to disbelieve what by some have been considered orthodox facts. To them I would reply by presenting for their consideration such cases as those of G—— W——l, William G——e, and Charles P——n; and there drawing their attention to the suppurating sores formed by abscesses or pustules within the urethra; to the enlarged glands; to the nocturnal pains, inflamed synovial membranes, lichen, ecthyma, and psoriasis, that every now and then follow the infection through the urethra." 4.

Let us look at the cases advanced by Mr. Judd.

The first is that of a man, C. B——n, who, after connexion with a prostitute, had a sore on the penis, near the pubes, and urethritis also. Mercury was not used, and secondary symptoms followed. According to the man's account both sore and discharge proceeded from the same connexion, four days previous to their appearance. This case proves of course, supposing the statement of the man to be correct, that one prostitute gave rise both to syphilis and gonorrhœa. But how feeble an argument in favour of the identity of the poisons this is, we think we shall speedily convince our readers. The common class of prostitutes comparatively seldom have syphilis alone. At the Lock Hospital, we almost always find that both diseases coexist. The fact is, that few women have been long upon the town without having chronic discharge. These women disregard gonorrhœa. After the acute symptoms are over, they generally let it run on; and when they contract syphilis, it is, in the majority of cases, superadded to gonorrhœa, acute or chronic, which was in the vagina already. After the syphilitic sores are cured, the discharge usually remains, for it seldom or never yields to the anti-syphilitic treatment. In this state women leave the hospital—indeed they cannot usually be got to remain. Knowing, as we do, these circumstances, our wonder is, not that syphilis and gonorrhœa occasionally coexist in men, but that they coexist so seldom. The argument founded on that co-existence is in itself worth nothing.

2. Mr. Judd argues on a suppositious case, at least we must presume it to be suppositious, for we do not see it. The case we allude to is this—that a woman with gonorrhœa only gives a man urethritis, followed, in a week, "by a pustule or sore within his urethra," and, "in some instances," by pain, sore throat, and eruptions. When the case is brought before us, we may take it into consideration—at present it only exists in the form of a petitio facti, and Mr. Judd cannot in reason require us to entertain it seriously.

3. Mr. Judd presents to the consideration of sceptics "such cases as those of G——W——l, William G——e, and Charles P——n." Let us see what these cases really prove. We will take them in the order in which they are arrayed.

Case 1. G. W——l, Jan. 1826. He had urethritis, which lasted an unusual length of time, in spite of all remedies. The discharge at last ceased, but was followed immediately by pains resembling rheumatism both in his knees and legs, and so severe, as to produce lameness.

This was the third urethritis he had had, and in all three instances followed by similar pains; and in each attack they continued during several months after the discharge had ceased.

This case, so far as we can read its characters, is surely one of gonorrhœal rheumatism, and of nothing more. That such rheumatic symptoms do occasionally follow gonorrhœa is not so far as we know, denied. But gonorrhœal rheumatism differs, in many essential particulars from the secondary symptoms of syphilis, and its avowed peculiarities are rather evidence against than for the identity of the disease.

Case 2. "William G——e, May 22d. Three months since he had urethritis which continued a fortnight. He is now thickly studded over with lichen upon his fore-arms, thighs, and legs: some are just desquamating. A few of them appear to contain lymph, but have little inflammation round their base. He states positively that he has 'not had a sore these five years,' nor is there any mark as if he had.

Hyd. Submur. ē. Pulv. Jalapæ.
Ung. Hyd. ʒj. omni nocte illinenda.

June 22d.—His mouth is sore; he has used twenty-four drachms of mercurial ointment, and the eruption is quickly disappearing. He went into the country for change of air and recovery of strength.

July.—He returned well at the end of three weeks." 50.

Case 3. P— C——s, January 14th, 1819. Four months since he had urethritis, and he positively states without either sore or excoriation. There is now lichen—inflammation of the conjunctiva—and a sore throat. As the lichen disappeared, the skin and scalp disquamated, and the greater part of the hair fell off. He was put on blue pill and sarsaparilla. In February he had a second eruption, somewhat resembling psoriasis—the throat was still tender—and there were fissures about the verge of the anus in a red and half-secreting state. At the end of February he is reported to have been well.

Case 4. Charles P——n, April 2d, 1827. In the previous week he had urethritis. This suddenly ceased, and the testicles became inflamed. On

the 26th it was better, but on the 28th it re-inflamed. On the 13th of May the prepuce became swollen. On the 19th he had some discharge from the urethra, and hardness within on its lower part, about half an inch from the orifice. On the 2d of June an abscess broke into the urethra. On the 4th, a crop of lichen came out, the throat was inflamed, a gland in the neck was enlarged, and there were symptoms of pyrexia. On the 28th, there was another attack of pain in the limbs, and some return of the inflammation of the testicle. On the 3d of July a fresh eruption of lichen. On the 6th of September an impetigo appeared on both legs. He was now ordered to take Plummer's pill twice daily, and decoction of sarsaparilla. On the 9th, fresh lichen and papulæ appeared, and "the submaxillary glands on the right side were enlarged."* On the 11th, iodine was substituted for the Plummer's pill. On the 18th, this was changed for bark and soda. On the first of October the abscesses in the neck were opened. On the 18th, a fresh crop of lichen appeared. In November, another gland swelled in the neck. The bark was discontinued, and liquor potassæ was given. On the 14th of January he was reported well.

In another case urethritis was followed in three months by pains in the limbs, an eruption of "ecthyma," and loss of flesh. "Each large pustule on the legs ulcerated and the cellular membrane formed sloughs and tedious ulcers that cicatrized slowly."

Such are the cases of secondary symptoms of gonorrhœa related by our author—such is the evidence to which he appeals, and appeals with confidence, as establishing the identity of that complaint and syphilis. On these cases, and on the arguments founded on the occurrence of gonorrhœal secondary symptoms, we would offer the following observations.

1. It will be observed that, in two of the preceding cases, the patient *stated* that he had laboured under gonorrhœa only, and that he had no sore nor excoriation. Such evidedce is exceedingly fallacious and unsatisfactory. Superficial sores at the angle behind the corona glandis are constantly overlooked by patients. We have repeatedly seen them present themselves with discharge from within the prepuce, and suppose that they were labouring under gonorrhœa when either the latter had no existence, or was combined with sores or excoriations in the spot that we have mentioned."† Nay, we have seen patients apply on account of true secondary symptoms, and deny that they ever had any primary symptoms at all. We have at this time a gentleman under our care, with tubercular eruption and

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* Mr. Judd must here allude to the lymphatic glands. The submaxillary salivary gland, which is frequently said to be enlarged, and to suppurate, is very seldom indeed affected. But it is contiguous to several lymphatic glands, which are frequently inflamed.

† We have now under our care a respectable tradesman, who came to us on account of his hair faling off, ulceration of the throat, and syphilitic psoriasis. He said that he had gonorrhœa three months previously, but denied that he had had a sore. We asked him to draw back the prepuce, and on its inner fold discovered a well-marked indurated cicatrix On drawing his attention to it, he observed, that he then remembered his having "a pimple" there, but he thought it was of no consequence, paid no attention to it, and, until we pointed out the scar, had quite forgotten the circumstance.

yellow ulceration of the throat, who positively states that he is not aware of having had either gonorrhœa or sores, and attributes his complaint to a blow on the testicle and violent inflammation of that organ received in hunting. This gentleman can have no object in deception, and either we must say that he is himself deceived, or that syphilitic secondary symptoms have occurred independently of syphilis—which is the more probable conjecture we need hardly say.

The surgeon must recollect that a syphilitic sore may exist in the urethra. The following cases, of which we shall merely mention the heads, have come under our own observation.

Case 1. An out-patient of the Lock Hospital presented himself with what we considered common gonorrhœa. We employed what we thought the appropriate remedies, but still the discharge remained. At the end of six weeks or two months, an attack of pyrexia ushered in yellow ulceration of the throat, and syphilitic psoriasis. We thought that we had met with an unequivocal instance of secondary symptoms after gonorrhœa. But, on carefully examining the urethra, we found on the inferior surface of the penis, about an inch or rather less from the orifice, a circumscribed induration, of about the size of a silver two-penny piece, evidently seated in the corpus spongiosum urethræ, and conveying to the feeling precisely the impression which an indurated sore on the surface presents. On making pressure the patient complained of pain, and pus tinged with blood escaped from the orifice of the urethra. We should observe, that the characters of this induration were very different from those of enlargement or suppuration of a lacuna. In the latter case, the hardness resembles what a pea might produce. It is small, distinct, and globular. But in this instance, the hardness had a larger area and was flat. We immediately concluded that he had met with a syphilitic sore in the urethra, and put the patient on a course of mercury. The induration rapidly subsided, the discharge pari passu diminished and ceased, and the secondary symptoms were gradually removed.

Case 2. About six months ago, a gentleman consulted us for what he considered a clap. He had been for four or five months under the care of a distinguished surgeon in London, and had run the gauntlet of the orthodox remedies for gonorrhœa. Cubebs, copaiba, the turpentines, and injections of all sorts had been tried, and, we believe, bougies had been employed.

On examination we found that a profuse thin discharge escaped from the urethra, with much scalding and pain in the act of micturition. On everting the lips of the orifice as much as possible, we could plainly distinguish, a little within it, yellowish ulceration of the mucus membrane. The rethra was felt distinctly indurated for an inch or more from the orifice, when pressure was made from without; and that pressure occasioned discharge and was very painful.

Now in chronic inflammation of the corpus spongiosum, there is induration of that structure, and pain on pressure. But in chronic inflammation of the corpus spongiosum, there is no ulceration of the mucous membrane. We should observe, too, that in that affection the induration is more uniform than it was in the case we are detailing. These circumstances induced

us to suspect at once that we had to do with syphilitic ulceration in the urethra. In prosecuting our inquiries we ascertained that this gentleman had ulceration, of a yellowish colour, of the tonsils, and enlargement of them; and independently of common pityriasis, with which his back and breast were covered, he had patches of true psoriasis mingled with it.

We determined to put our patient on a course of mercury. Under this he rapidly improved. The ulceration of the throat healed, the psoriasis passed away, the pityriasis, however, remaining—the induration of the corpus spongiosum disappeared—the ulceration of the mucous membrane healed—and then the discharge ceased altogether. In fact, this gentleman was completely cured by a mercurial course, and is now under our care for a common gonorrhœa, which he has recently contracted.

3. It is not enough that "secondary symptoms" follow gonorrhœa. To prove the identity of this and syphililis, those secondary symptoms ought to be identical. Perhaps the most decided and unequivocal gonorrhœal secondary symptoms is what has been denominated gonorrhæal rheumatism. We see no such peculiar affection as a consequence of syphilis. In cachectic cases we not unfrequently observe inflammation of the synovial membranes. But these cases differ widely from those of inflammation of the same membranes in "gonorrhœal rheumatism."

The purulent ophthalmia, which we sowetimes observe as a concomitant or a consequence of gonorrhœa independently of any ascertained direct application of the gonorrhœal matter, is not observed to follow syphilis.

A wide distinction must be drawn between many of what are too commonly described under the general term of secondary syphilitic eruptions. The pustular eruptions are frequently cachectic. We have twice seen an eruption of ecthyma, that could not be distinguished from the secondary syphilitic eruption, occur in dropsy, when the patient had neither laboured under syphilis nor gonorrhœa. Impetigo very frequently occurs on the lower extremities of patients of the meaner class, while affected with venereal symptoms. It is removed however by rest, purging, and such tonics as sarsaparilla, and it would not be proper to set it down as a secondary eruption. In one of the cases detailed by Mr. Judd, ecthyma and ulcerated legs are reported as the consequences of gonorrhœa. The considerations we have mentioned would lead us to pause before we attached much importance to those symptoms.

4. But taking all the preceding arguments and facts into the account, we have no doubt that secondary symptoms which cannot be distinguished from those of syphilis, occasionally follow gonorrhœa. Yet observe the difference which even here exists between syphilis and it. In syphilis the occurrence of secondary symptoms, if mercury be not emyloyed, is the rule—in gonorrhœa it is not only the exception, but the rare exception. We would appeal to the common sense of the profession on this point. How many cases of clap must every surgeon witness—how few instances of secondary symptoms from it he sees! This is the broad view of the question which very seldom deceives.

5. It might be snpposed that those gentlemen who argue so strongly for the identity of syphilis and gonorrhœa, and for the frequency of secondary symptoms in the latter, would be consistent in their views of treatment, and employ mercury for both complaints. But this is not the case with Mr.

Judd. He makes no observations on the treatment of gonorrhœa, but, from his cases, we collect that he uses copaiba, injections, and means of that description, much in the ordinary way. Now this is a practical admission of a distinction between the two disorders, and, whatever may be said or whatever may be done, we venture to pronounce that Nature will not change however doctrines may, and that whatever theory be up or down, clap, as a general rule, will not require a course of mercury to prevent secondary symptoms, whilst syphilis certainly will.

We observed before, that Mr. Judd offers no observations on the principles that should regulate our treatment of gonnorrhœa, and, therefore, we pass on to the second part of the volume, which treat of the venereal virus.

Our author's observations are too desultory, to enable us to attempt to analyse them. We must content ourselves with alluding to the following subjects.

1. Mr. Judd refers to the institutions of Moses, as proof of the antiquity of the venereal disease. We must say that we look upon this dispute as exceedingly unprofitable. It is impossible now to settle the question: and, if it were possible, it would be useless. It matters little to the present generation, whether the Jews in the days of the Pharoahs, were poxed or not; and if we understand what syphilis is, and the best way of curing it, we may pocket our ignorance of whence it came, and how it was originally generated.

2. A more important point to be determined is, whether syphilis can originate, independently of the agency of ready-formed syphtlitic matter. Mr. Judd is a warm advocate of this spontaneous or independent generation of the malady. His arguments seem to be chiefly these.

"Let us fancy," he says, "an insulated colony, peopled by clean, healthy, and undefiled persons, and let us consider whether, in their social intercourse, such a disease could arise, and without any contagion being brought amongst them by new comers. It will, I take it, be readily allowed that all animal bodies are at times prone to take on some morbific action or other; and it may be observed that but few persons are exempt from a pimple every now and then, or some little breaking out (as it is termed) on the face, breasts, sholders, etc. and, believe me, the penis and vagina are liable to a similar eruption, in common with other parts:* indeed, a vesicle or pustule, or an occasional abrasion, will often form on the corona glandis, labia, etc., or even ulceration take place, from friction, or from acrid secretions, especially if they are permitted to remain and become putrid, within the foreskin or labium. Now, we will suppose a man gets a tear during sexual intercourse; well, if his constitution is not in possession of health, is it not likely enough that a sore with unhealthy discharge will take place and for such an ulcerated surface? And this is more apt to happen from the acrid nature of the pus formed about the sebaceous lacunæ. Then again the female vagina, on the very next night, may become the depository of this discharge; and should this woman have intercououre with a variety of other men, one of them may come to her with a pimple on his glans, and on the succeeding

* "May 1st, 1835. I examined about six hundred persons, and in three instances found vesicles on the parts of generation, in individuals that also had vesicles at the time on their faces: and some of these were among married men."

day another with a vesicle or pustule—each act of connexion probably not only breaking the minute vesicle or postule, but also squeezing out its contents into the vagina. Well, when these retained discharges become rancid, they excoriate the parts of the woman in whom they have lodged, and a breach of surface, or probably an ulcer, will then be formed from the irritation of the lining membrane; and a sore, or a discharge, will of course be produced in the next person who may chance to have intercourse with her. Besides, it is well known that secretion from the vagina (and of a kind, we have no right, in the common view of the subject, to consider venereal) often produce sore-throat, ulcers in the palate, and eruptions. (Vide case of Charles P——n, etc.)" 140.

It will be observed that this is throughout a suppositious case, and cannot logically or reasonably be admitted as any proof that what is supposed is true. Mr. Judd refers to the instance of C. P——n, as confirmatory of the view that secretions from the vagina, of a kind we have no right to consider venereal, may produce sore throat, ulcers in the palate, and eruptions. On refering to that case, we find it simply stated that the patient had urethritis, not a word being said of the origin of the disorder. We must, therefore presume that it was contracted in the ordinary way.

Now if simple vesicles, pustules, and so forth, produce thus readily the venereal disease, it is singular that, in some way or other, it happens that few married men or women are infected, unless they forsake the connubial bed, and do what they should not. Amongst the thousands of married people in whom the fair proportion of vesicles, pustules, and so forth, must occur, we very seldom find that syphilis springs up, unless there is a good reason for it. A man when he marries never counts on syphilis as one of the inconveniencies of matrimony, but he *does* count on syphilis as one of the inconveniencies of promiscuous intercourse. Nothing is more common than herpetic vesicles on the penis, and on the outskirts of the female organs; yet it has not been our fortune to see these vesicles in honest people turn to pox. We say that this is a circumstance that should make us look on the spontaneous origin of syphilis with doubt. The spontaneous origin will usually be found to be extra-connubial; and, if it has nothing to do with infection from specific morbid matter, it is a better instance than we usually meet of direct and positive retribution.

One thing is quite certain—that inflammation and suppuration of the mucous membrane of the urethra and vagina, may arise from many cases, independently of specific contagion. The complaint thus produced is not distinguishable from true gonorrhœa. Whether it is or is not infectious, has not yet been settled by sufficient and satisfactory experiments; but there are reasons for believing that it is.

Gonorrhœa appears capable of giving rise, in certain individuals, and especially in women, to condylomata. Condylomata again occasion, if they exist for a length of time, peculiar secondary symptoms. Condylomata which ulcerate upon the surface, appear to be capable of generating similar sores in a cutaneous surface, exposed to the influence of their secretion. For these facts we can vouch, and so far as they go, they appear to establish the spontaneous origin of sores which are communicable, and occasion secondary symptoms. Yet we need not observe how vague this evidence is, nor need we state, what all must feel, that our present information with respect to the independent production of syphilis, must be looked on as rather negative than positive.

3. Mr. Judd believes that syphilis is not a simple, but a compound disease—in short that there is a plurality of poisons, as there is undoubtedly a plurality of sores. This is a very reasonable opinion, and one which is most consistent with the facts. We see sores of different characters, which run a different course, require varieties of treatment, and evince differences in the mode and the degree in which they contaminate the system. It is almost impossible to suppose that all can result from one poison. But Mr. Judd goes farther than this, and contends that the very same sore results from a mixture of several poisons, and is the medium by which those several poisons are conveyed into the system. He grounds this idea on the occurrence of more than one form of secondary eruption in the same individual.

"If," he remarks, "the venereal were a simple and not a compound virus, i. e. consisting of many poisons, why should it produce a greater number or variety of eruptions from one source than any other virus that we are hitherto acquainted with? The pure lymph from cow-pock produces the vaccine vesicle only; and pure pus from small pox the variola vesicle only; and their compound or mixed virus produces modified small pox only, and so with all other poisons from every known source. If the venereal consisted of a single virus, it should invariably arise from a similar sore, and always produce one effect, as lichen only, or rupia only; or ecthyma only, and not papular eruption followed by vesicular, and those by pustular, and all arising out of the same virus. If I believed in this opinion, that all these varied symptoms were the produce of one virus, I might with equal propriety expect to produce peas and beans on the same peduncle,* and from one seed pea. Yet I do not mean to deny that a single poison is not at times secreted, or that a single virus is not at times imbibed; and the latter circumstance probably does occasionally take place even when several are presented to the absorbents, for they are known to possess an elective attraction, (or at least they take up alkalies and refuse acids,) which is well illustrated by several of the cases herein related, that occurred in my own practice. Doubtless two persons may be infected by various secondary symptoms by the same woman, even on the same evening; for the one may imbibe a different poison to the other; indeed there are considerable grounds for believing that the absorbents of certain individuals will always take up one peculiar kind of virus in preference to another; and thus some have one peculiar form of ulcer or eruption produced, however often they may contract venereal disease, and however many poisons they may be exposed to. Hence, you may observe the same patient applying for advice with a similar set of symptoms during a series of years, although produced by many fresh contaminations, and from association with fresh individuals from distant districts."† 153.

Thus, if we admit the soundness of Mr. Judd's opinions, we may suppose that one woman may give one man one description of sore, another man another sore, and a third a different one, and finally, that she may give to a fourth, or a fifth, or a sixth lover, a sore which shall be composite and contain several or all the morbid poisons. The infection depends, in this view of the case, on the elective powers of the absorbents in the indi-

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* A term used in Botany for a stem.

† We cannot help observing what appears to be inconsistency on the part of Mr. Judd. He argues very earnestly for the plurality of syphilitic poisons, because there are some differences in the phenomena, while he denies the distinction between gonorrhœa and syphilis, in which those differences are much more remarkable.

viduals affected. When we couple this doctrine with the previous one, that the various sores may be readily originated from common vesicles, discharges, and so forth, we must confess that our author supplies us with a very efficient machinery for the propagation and perpetuation of pox.

Although we believe in the plurality of venereal sores and of venereal poisons, we cannot go so far as our author has gone. We do not deny that it may be as he says, but we have not yet seen satisfactory proof that it is so.

It is difficult to imagine that one sore should be a Pandora's box, containing within it many poisons. The consideration which would seem to weigh most with Mr. Judd, is the occurrence of more than one form of secondary eruption in the same individual. He cites the cases of vaccinia and small pox, in which only one form of secondary eruption follows the inoculation of the morbid poison. We must pause before we receive this as a conclusive argument.

Analogical reasoning should be employed with judgment and received with caution. No two facts are exactly alike, and the deduction obtained from one, must only be used to illustrate, not establish, the deduction from another. Analogy is peculiarly fallacious when applied to the explanation of diseases which arise from a specific poison. Their very nature isolates them in a great degree, and withdraws them from the control of general, to place them under that of their peculiar laws. The laws of the origin, development, and progress of small-pox, measles, scarlet fever, plague, all differ. One morbid poison is communicable by inoculation, as the small-pox—another, measles, is not. Temperature exerts such an influence on some, as on plague, that it only exists within a certain range—whilst other morbid poisons, as small pox, scarlet fever, syphilis, prevail in all climates. under all temperatures, and in every season. Plague and syphilis occasion bubo; measles and scarlet fever do not. It would be idle to push these observations farther. Eech specific morbid poison displays phenomena, and obeys laws of its own; each disease produced by it must become a special study. Even if it were true that no other morbid poison occasions more than one description of secondary eruption, that would not prove that one syphilitic poison cannot do so. The fact is to be determined or refuted not by ascertaining what small-pox does, but what syphilis itself does. Let us see how the case stands.

A man, after connexion, has a sore which exhibits certain characters. We will say, for instance, that it displays the well known features of the Hunterian chancre. This sore is followed by a tubercular eruption and a yellow ulceration of the throat. Another man has a sore to all appearance similar to the preceding. In him that sore is succeeded by lichen, and that lichen is followed, perhaps by rupia. Now in these two cases, which are not imaginary, we find what appears to be the same description of primary sore occasion not only different secondary eruptions in different individuals, but different eruptions in the same individual. The question then comes to be simply this:—Shall we trust the evidence of sense—or shall we disregard the obvious fact, and because small pox is thought to occasion one eruption only, deny that one syphilitic poison can occasion more? This is the dilemma. For our own parts, we prefer to read the book of nature in the plainest sense, and in the present condition of our knowledge, to believe

that one syphilitic poison does in different states of constitution, and under different circumstances, give rise to different secondary eruptions. We will not enlarge upon this point at present, because in a future number of this Journal, we shall probably draw attention to the conditions which seem to us to modify the eruptions in question.

Mr. Judd is not quite correct in supposing that the same morbid poison always produces similar sequelæ. If a family for example, are exposed to the cause, whatever they may be, of scarlet fever, the symptoms displayed by different members of the family are very various. One will have "putrid sore throat," and no eruption, and will die in a day or two—the second will have sore throat, dark-coloured eruption, and typhid symptoms, and die also in a short time—a third will have very vascular sore throat, bright eruption, and higly inflammatory symptoms—a forth will have a slight eruption, with scarcely any, or no perceptible sore throat—and several others may have slight sore throats, and no eruption at all. Who has not seen all these varieties of disease in a single family, when scarlet fever was prevailing? We feel no greater difficulty in supposing that two or three forms of cutaneous eruption may follow one syphilitic poison, than that diseases so opposed in their appearances, their phenomena, and their results, as a slight sore throat and a putrid scarlet fever, should arise from the application of one scarlatinal poison.

But Mr. Judd goes farther than we yet have followed him. The extent of his opinions may be gathered from the following quotation:—

"Yet that the primary sore is only the proximate or secondary cause of the eruption is clear, for does not the sore always, or next to always, follow inoculation by the poisonous virus, and precede the venereal eruption? That the sore and the effects following it are very intimately connected,—and more, that the eruption produced, and the sore producing it, bear a reciprocal influence over each other,—is demonstrated by such facts as the following:—A patient, now under my care, had, some weeks before, excoriated margins of the mouths of the sebaceous lacunæ around the corona glandis; and, after the usual lapse of time, they were followed by the puniceous patch eruption, which took place by the time the sore had healed without mercury. Shortly after this, he was attacked by pain in his limbs, and a considerable aggravation of all his secondary symptoms. The sympathizing cicatrix of the sore immediately re-ulcerated, and in so doing it assumed exactly the lozenge shape, and even the size of the puniceous patches, that were at the time declining from his skin. On the 30th of October, 1833, I examined the above described sore; it had re-cicatrized, but it had left an elevated square surface, with a flat summit, standing up more than a line above the level of the surrounding integuments of the glands and foreskin, but still bearing its full resemblance to the puniceous patch eruption; for the remains of it being still visible upon his skin readily enabled me to compare them. In the case of James T——s, after the primitive sore had healed, lichenous puniceous patches broke out all over his person; and no sooner did the eruption commence, than the original cicatrix of the sore, sympathizing with the general inflammatory state of the cuticle, re-ulcerated, and formed one of those well-marked, elevated, lozenge-shaped, crimson surfaces, very similar indeed to the vivid patches of the eruption existing on his skin.

In a third case of puniceous patch eruption that I have at present under care, in T. J——th, the primitive sore left an immense elevated lump of induration, which felt like a piece of cartilage in the surrounding cellular membrane; yet the figure even of this induration was also a squarish oblong, much resembling in its shape and elevation the patches that formed his eruption.

(December.)—About two months afterwards, this person had another eruption of vesicular lichen; the indurated surface left by the sore was attacked by three small vesicles or ulcerations, and on healing, they left three projections of the cuticle, not exactly like, to be sure, but little different from lichen in their height, colour, and shape." 155.

It is right to add to the preceding observations, the explanatory statement which succeeds it.

"However, it must not be expected that all primitive sores perceptibly exhibit on their surface the various changes that correspond with their eruptions, as such effects are only well marked at times, and not in all cases; probably from the original surface generally sloughing away, or being destroyed by caustic, and other applications, used to expedite the healing of the sore." 157.

The circumstance alluded to by Mr. Judd is undoubtedly the exception, and not the rule. Secondary eruptions occur upon the penis, as on other parts of the surface of the body. But the cicatrix of the primary sore very seldom indeed becomes affected in a manner corresponding to the secondary eruption which appears. A slight consideration must make it evident that this would be improbable. The secondary eruption is the evidence and the result of the contamination of the system. That being once contaminated, the primary sore has no more to do with the matter, and can only share the general infection. In the chapter of chances its site may be attacked with the secondary eruption as well as other parts, nay, as the cicatrix is frequently unhealty, it might perhaps be rather more prone to take on a morbid action than contiguous sound skin.

Whether this be or be not the true explanation of the circumstance, we can affirm as a general fact, that the cicatrix does not take on an action, correspondent to the kind of the eruption. Now and then it reulcerates, but even this is not common. Usually it remains indurated, and the skin is rather red.

The second chapter of this second part, is "on the variety of absorbent surfaces and primary sores, and on the various modes by which the poison enters the system."

Mr. Judd points out, of course, the route of the absorbents, as the ordinary channel by which syphilis enters the constitution. On this we need not dwell. But it appears to us that Mr. Judd does not sufficiently distinguish between the inflammation of the absorbent, which must be the result of simple irritation, and that which is the result of the specific poison. If we see a slight abrasion produce inflammation of the absorbent vessels, and suppuration in the glands, we need not be surprised if a sore should occasion the same effects, independently of the action of a peculiar poison. No doubt this is frequently the case in syphilis, and we are confident that it is generally, if it is not always the case in gonorrhœa. We are occasionally consulted by a gentleman who scarcely ever has connexion without some enlargement of the inguinal glands ensuing. Purgatives, rest, and evaporating lotions always remove the irritation and the swelling.

It is a curious, but a well ascertained fact, that the bubo occasionally precedes the apperance of a sore. If we trusted to the representation of patients, we should look upon this as a common occurrence, for the constantly overlooked slight sores. But, discarding their testimony, we have occasionally, as we observed, opportunities of witnessing the fact ourselves. Probably in many of these cases the bubo is the product of simple irritation; that, at

least, is the most reasonable view of the case. But in other instances, it is more rational to suppose that, in some way or other, the absorbent has received the poison independently of a breach of surface. The following memorandum on the subject by our author deserves consideration.

"In the month of June, 1818, I saw and made notes of three cases of buboes which took place from ten days to three weeks after connexion, without the parties having had any sore, by which it would be observed or suspected that the virus had entered their systems; but in one of them a deep sore, of a kind that would be termed chancre, appeared a fortnight after the bubo had formed, and at that very time too when the patient had a sore mouth from his gums and system being fully under the influence of mercury.

Another case of primary sore, forming more than two months after the bubo, will be seen in the case of James G——y, followed by maculæ cupreæ." 166

Mr. Judd relates a case in illustration of these remarks; but we cannot look on it as very satisfactory.

Case. James G——y, June 14th, 1819.—He had connexion, and three weeks after it the glands in both groins began to enlarge; and getting irritated by his continuing to take his usual portion of exercise, they soon suppurated. In the latter end of August, a small sore made its appearance on the penis, over the mouth of a sebaceous lacuna; it looked as if he had rubbed the skin off. It healed several times, and again broke out, much induration occurring about it. His mouth was kept sore from the 17th of October until the 11th of November. During this time a slight crop of ecthyma made its appearance on the shoulders and back. In November, the patient leading a very irregular life, the groin re-inflamed and suppurated again. In September, 1820, *ten months afterwards*, he returned with several sinuses in the groins, and the lacuna, where the abrasion had been, was red and pouting. He had now some yellow marks on his skin.

"October 1st.—A number of very peculiar copper-stains, SPILI CUPREI, made their appearance in the skin of the lower part of his neck, breast, and shoulders. These stains did not come out all at once, but by a few at a time, in various forms; some as single spots, others coalesced in groups.

Fresh maculæ keep appearing every few days: those that came out first are desquamating, and throwing off branny scales, whilst fresh ones are appearing on other late healthy portions of skin, and there forming large patches of some inches in magnitude, especially upon the chest and axillæ." 433.

The copper-stains increased, and they felt as if the cuticle over them was slightly elevated. He was kept "under a long and steady course of mercury," without any influence on the eruption, and two years afterwards it was visible still.

This case is on many accounts unsatisfactory. In the first place, we have only the statement of the patient that the buboes occurred without any previous excoriation. In the second place, it is extremely dubious whether the eruption of ecthyma, which appeared upon the back and shoulders, was venereal. In the third place, the interval of ten months which elapsed between the patient's leaving the hospital and returning with copper-stains, must render the source of all subsequent symptoms vague; for, during that time he was probably exposing himself continually to fresh infection, whilst an irritable, if not excoriated surface, was ready-formed to receive it. And, in the fourth place, it is more than probable that the copper-stains were not syphilitic at all, but an eruption of pityriasis. We are led to this opinion

on two accounts—first, that the description and the plate of Mr. Judd, apply to pityriasis, and, secondly, that a long course of mercury had no influence on the eruption, which is constantly the case with that effection. On all these grounds, we cannot consider the case before us as free from many serious objections. We make these observations in order to shew that great caution must be excercised in forming opinions with respect to venereal infection and to secondary venereal eruptions. We never can expect to arrive at satisfactory conclusions on the characters, the course, or the treatment of syphilis, unless we are extremely sceptical in admitting evidence. We know of no disease in which more rigid reasoning is necessary, in order to dispel the clouds of uncertainty and error that hang over it.

Mr. Judd makes some remarks on venereal buboes, which are open to the objection we have already hinted—that he does not make the due allowance for ordinary irritation and inflammation of the absorbent or its gland. It does not follow, that, because an inguinal gland is enlarged, the venereal poison has been the cause of it. Herpes preputialis, occuring independently of all connexion, will at times occasion bubo. No doubt that bubo is often produced by the absorption of the virus; but, no doubt, the absorption of the virus has often nothing to do with it. It may be asked, how we discriminate bubo occasioned by simple irritation, from bubo occasioned by the ingress of a poison into the absorbent. In many instances the discrimination is impossible, and it is only a review of all the circumstances in the individual case, that can enable us to arrive at a correct or a probable opinion.

Mr. Judd observes that, when the sore or the glands are attacked by gangrene, and slough out, it is not more than once in five or six times that any venereal contamination takes place. The cases we have seen induce us to regard this, which is a commonly received opinion, with some doubt. From what we have observed, we should say that the occurrence of secondary symptoms is much influenced by the period at which the sloughing occurs. It is not unusual for patients in the lower classes to neglect venereal sores at their commencement. They go on for some time unattended to and unchecked, and then from intemperance, or cold, or murcury, or some debilitating agency, they slough. Under these circumstances, secondary symptoms are far from rare, and some of the very worst cases of secondary affections of the throat and skin which we have witnessed, have originated in this manner. But where sloughing occurs early, we have noticed, as, indeed, the majority of surgeons have done, that the frequency of secondary symytoms is diminished.

Mr. Judd alludes to the opinion of Mr. Hunter, that pus from a suppurating bubo will not occasion syphilitic disease. Mr. J. observes that he "may safely affirm that secondary symptoms would follow the entry of the pus from a bubo, either into the system of its producer, or into that of any other person." We agree with our author in the impropability of the absolute dogma of Mr. Hunter, but we could have wished that Mr. Judd had tested the matter experimentally. Half-a-dozen experiments would prove more than as many volumes of reasoning; it is a point which can only be decided by experiment.

We may proceed to the classification of sores proposed by Mr. Judd. It is contained in the following tabular view, and we must present it in the form and the words of our author, omitting some references to individual cases

"*A Tabular View of the several Primary Sores and Appearances on the Penis that followed various Venereal Contaminations.*

1.—A superficial redness* on the surface of the penis, either surrounding the contaminated mouths of the sebaceous lacunæ. or encircling the corona glandis, followed by absorption of various poisons, and by various eruptions.

2.—A half-excoriated crimson surface on the glans, at times surrounded by semicircular radiated lines (and there may be traced occasionally an inflamed absorbent from it), followed by small vesicles on the brow and chin.

Var.—Excoriations, fissures, and abrasions, most common between the glans and prepuce, forming absorbent surfaces, giving rise to abscesses in the body of the penis, and a great variety of secondary symptoms, as puniceous patch eruptions, sore throat, nodes, and inflamed synovial membranes.

3.—A pimple, or pimples, more or less risen; or an oviform red surface on the glans, well corresponding with, and frequently followed by lichen.

Var.—At times a pimple becomes vesicular, or suppurates, or breaks, and ulcerates. It generally produces bubo, pains, sore throat, lichen, ecthyma, iritis, opacitis of the cornea, and thickened periosteum.

4.—A vesicle on the glans or prepuce that appears about the third day after connexion, and leads to pain, pleuritis, puniceous, and vesicular eruptions, rupia, ulcerated tonsils and pharnyx, nocturnal pains, inflamed synovial membranes, corona veneris, tubercles, and psoriasis.

Var.—Small vesicles that concrete or incrust, followed by pains in the shoulders; by sore throat; vesicles on the face and scalp; and also by psoriasis; and swelled legs and ancles.

Var.—A circle of small vesicles on the glans and dorsum, producing pains, sore throat, clefts in the tongue, and general concentric vesicular eruptions.

Var.—Herpes præputialis, or a cluster of small vesicles, set on risen inflamed bases, situated on the glans, prepuce, or body of the penis; or thigh, pubes, scrotum, or buttocks; followed by soar throat, pains in the knees and ancles, all respectively recurring for years in succession.

5.—A pustule, or more, various in size, appearing from the third to the seventh day after connexion on the glans, or between it and the foreskin; on the body of the penis, pubes, or scrotum, and sometimes forming an indurated annulus, and followed by urethritis, pustular sore throat, pains, ecthyma, and suppuration in the submaxillary glands, and crural absorbents and iritis, or ulcerated cornea.

Var.—Several smaller and less opaque pustules on the dorsum, about the fifth day after connexion, followed by pains, ecthyma, iritis, and ulcerated cornea, it is with syphilitic urethritis and pustule; or abscesses, or ulcers produced by it, within the urethra, come properly under this head, producing pustular eruptions and secondary symptoms.

6.—A chancre or small deep round ulcer, with hardened edges. It generally appears about the the third day after connexion; often healing by the tenth; is at times situated on the mouth of an absorbent; at times followed by nocturnal pains; at times by effusion into the synovial membranes, with, sometimes, nodes and corona veneris; enlarged bones and testicles, boils, tubercles, lepra, and psoriasis.

7.—An Ulcer with a raised and glassy-looking level surface, spreading by a dark film at its edges, running perhaps half-way round the prepuce; and followed by bubo, puniceous patch eruption, or tubercles.

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* "Every abrasion, pimple, herpes, pustule, wart, or slough, is capable of causing enlarged glands or buboes, in addition to the above symptoms.—In rare instances, absorption of virus takes place without breach of surface, or any visible mark."

8.—A CLEAN SMALL ULCER, with a level base, situated on the glans a little deeper than the skin, followed by bubo and maculæ.

9.—A PHAGEDÆNIC BLEEDING ULCER,† beginning with a black spot on the penis, or cellular membrane, eating through the prepuce, or into the glans and corpora cavernosa, followed by puniceous patch eruption, pains, ulcerated tonsils, tubercles, and lepra.

VAR.—Healthy sores, changing their state; which at times increase by white sloughs, and often run into hospital gangrene."

The principal reasons of our author for supposing that he has arrived at an approximation to the correct enumeration and classification of venereal sores, will appear in the following passage.

"In limiting the number of sores and primary affections to about nine, (but without including their modifications,) I do imagine that I have come very near to the true number met with in England, Scotland and Ireland: for, from the numerous drawings I had made of sores, and sketches of various venereal eruptions, and from the many manuscript accounts I have collected during a period of near twenty years, I can assert with truth, that on summing up all the various appearances of the sores, and comparing them and the number of the eruptions, I actually found their numbers exactly corresponded. At this I rejoiced, and hailed it as a happy criterion, showing that I had approached as near to the true number as the difficulty of the subject, the features of sores, and the variety of cutaneous affections probably admit of." 185.

We will now return to the arrangement of venereal sores, proposed by Mr. Judd. In the first place we may observe, that we presume the great object of any arrangement is the definition and description of venereal sores. As it is obvious that the penis is subject, like other portions of the surface of the body, to the ordinary affections of the surface, it is clear that they ought, if possible, to be separated from those specific venereal sores, which result from the application and peculiar influence of a morbid poison. Unless some such plan is adopted, we open the door to a dangerous latitude and laxity of doctrine, and we might as well declare without circumlocution, that every consequence of sexual intercourse, from the simplest irritation or abrasion upwards, constitutes the venereal disease.

When we contemplate the "tabular view" of sores, which is spread before us, we are struck with the fact, that if it be correct, there is no affection of the surface of the penis, which must not, or may not be deemed syphilitic.

Our author's first variety of sore is a superficial redness on the surface of the penis, either surrounding the mouths of the sebacious follicles, or encircling the corona glandias. If this be considered syphilitic, then many an honest man has syphilis, who never dreams of his condition, and many a case of such syphilis is cured by a purge and a little goulard water. We do not say that such superficial redness may not, in some rare instances, indicate the operation of the syphilitic virus. But we are sure that in the great majority, it must be looked on as the effect of simple irritation, and that the surgeon who considers and treats it as syphilis, will greatly overrate its importance.

The second variety is a half-excoriated crimson surface on the glans.

† "Black and white phagedæna.—Both vesicles and pustules generally appear to the eye to commence as pimples, but soon either assume their proper form, or ulcerate.—At times, a peculiar half-excoriated red wart leads to bubo, contamination, and puniceous patch eruption."

Two cases are brought forward in support of the opinion, that this is a syphilitic affection.

Case 1. Thomas D——ge. August 30th, 1829.—"A small sore on the inside of the prepuce, which came a few days after connexion; its margin is a little elevated; of a deep red colour, and fissured." On the 8th of September were two other sores, like pimples on the lower part of the glans. He was put on a course of mercury, and the sores were nearly healed, while two buboes were slowly suppurating, when, on the 17th of October, it is stated that "the side of the urethra and glans are ulcerated in a semi-circular form, radiated in lines, and becoming very hard. There is another fresh small sore, with elevated edges on the glans inside of the prepuce; and around it, a red half-excoriated surface that looks as if it was formed of straight, crimson, radiant lines, leaving a healthy light surface between the inner edge of the red cemi-circle and the sore." On the 20th of November, a vesicular eruption appeared on the face and nose. It dried up in ten days, and the patient then became well.

We do not perceive how this case establishes the correctness of the proposition embodied in the notice of the second variety of venereal sore. The "half-excoriated crimson radiated surface," was not the primary sore in this instance, and it is the primary sore from which we usually and properly date consecutive contamination. The radiated surface alluded to, was not only secondary in point of date, but appeared after the patient had been brought under the influence of mercury—a powerful disturbing circumstance. We are not convinced that the vesicular eruption on the face was syphilitic. Such eruptions are frequent, independently of syphilis, and its final disappearance in ten days is not the usual characteristic of secondary venereal ulceration.

Case 2.—C. S——ll, April 25th, 1823.—A sore formed on what appeared to be the orifice of one of the lacunæ of a sebaceous gland, (or the mouth of an absorbent,) in the depression between the glans and body on the right side of the penis. A defined red line was clearly traced from the sore, running under the skin, across the body of the penis, from its right side towards the left groin, and in a few days a gland on that side formed bubo, which suppurated and was followed by vesicles on the forehead.

How this case proves, or even bears upon the question, we confess ourselves unnble to perceive. No mention is made of the nature of the sore—nor is any evidence of the venereal character of the vesicles on the forehead offered.

Case 3. C. K——by. January, 1829. He has a number of sores that look like tears, situated between the glans and body of the penis, and around the foreskin: he states that they commenced a few days after connexion." He had several abscesses on the pubes and the penis. They formed sloughy sores. Mercury was given but it had not much effect.

We are equally unable to perceive the applicability of this, as of the former case. Sores "looking like tears" can hardly be arranged under the head of "a crimson excoriated surface."

We have not sufficient space to consider seriatim, each variety of venereal sore that follows. Our observations must therefore assume a more general character and application.

The objections to the classification of our author may be shortly stated. In the first place it is too vague; and in the second, it is imperfect. It is too vague, because appearances are laid down as venereal, and as leading to secondary con-

tamination, which the common experience of the whole profession has decided to arise frequently without the agency of the venereal virus. The fourth kind of sore, for instance, is said to be vesicle, more or less risen, that leads to pains, pleuritis, and so forth; while its sub-varieties consist of "small vesicles that concrete or crust"—a "circle of small vesicles on the glans and dorsum penis"—and "herpes præputialis." Now every surgeon of even moderate experience must have witnessed these appearances, where no sexual intercourse had taken place. They cannot, therefore, be looked upon as specifiic consequences of the syphilitic virus. If superficial redness, an excoriated surface, a pimple, a vesicle, and a pustule, may each and all occur, as undoubtedly they may and do, independently of syphilis, how can the surgeon pronounce on their syphilitic character? Yet these are the first five primary sores of Mr. Judd. The error into which he has fallen has been to take primary venereal affections at a period when they have not yet assumed distinctive characters. If the syphilitic virus produces a vesicle, a pimple, or a pustule, we are not to assume that all vesicles, pimples, and pustules are syphilitic, because these are general characters, common to the tribe of eruptive disorders, whether venereal or not. The vesicle or pustule may or may not be syphilitic, and it is impossible to determine from any investigation of its features, whether it is or not. We must wait until the poison has produced more specific and distinct appearances—until, in short, a surface or an ulcer has occurred, which possesses characters peculiar to itself. This is the method which has been pursued by all inquirers, and although there are some disadvantages attendant on it, it is the only one that offers a chance of our arriving at definite results.

The classification before us imperfect, for while it has admitted pimples and vesicles of dubious character, it has excluded two or three decided and not unfrequent forms of venereal ulceration. The multifarious fungating sore—the condylomatous sore—and some of the peculiar creeping sores, which cannot be fairly included in the broad term of phagedæna, find, if we read this classification rightly, no home within its precincts.

We have remarked that Mr. Judd makes little reference to syphilis as it appears in women. As an army-surgeon, his opportunities have been chiefly in the military hospital or camp, yet we feel assured that, unless the disease is extensively watched in both sexes, it cannot be well understood or described. It is only in a large Lock Hospital, that venereal maladies can be adequately studied.

In our next number we shall pass to the secondary effects of lues, and complete our notice of the present work.

WORKS ON PATHOLOGICAL ANATOMY.

I. OUTLINES OF HUMAN PATHOLOGY. By *Herbert Mayo*, F.R.S. &c. &c. Part I. 8vo.

II. ILLUSTRATIONS OF THE ELEMENTARY FORMS OF DISEASE. By *Robert Carswell*, M. D. &c. Fasciculus Ninth. HYPERTROPHY.

[Continued from No. 47, page 34.]

If our readers will refer to the pathological article contained in the last number of this Journal, they will find that we abruptly quitted Mr. Mayo and postponed the further notice of his work until the present quarter. We conclude the review of the morbid changes of the bones, and joints, and

bursæ, and we stated that the tissues whose alterations remained to be considered, were the muscular, the nervous, and cutaneous. To those our attention is now to be directed.

We have urged so repeatedly our conviction of the benefits to be derived from the diffusion of a knowledge of pathology, that we will not repeat the trite and hackneyed reasons that have led to that conclusion. But correct ideas on pathological subjects are not the offspring of the closet. The Editor of a Journal calculated to disseminate sound practical opinions must not now be sought in some country town. *He* may indeed learn what others do, and, neglecting that knowledge which lives and breathes, instruct us in the fantasies of Gallic ingenuity, or plunge us in the gloom of German mysticism. He may show the inquisitive practitioner how little the treatment of disease is understood in some great or some small Continental city, and display more nakedly the well-known fact, that the fruits of Continental medicine and the triumphs of Continental professors must be sought almost solely in the dead-house and dissecting-room. All this may be done by industrious pedantry, and the book-learned journalist may suppose that he is contributing to the advancement of his art.

But the man who is to live by curing diseases speedily discovers the hollowness of this. He seeks in vain for some useful fact, some truths that he may apply in the moments of difficulty and distress. Those truths are not found in the subtle meshes of transcendental criticism, or in the flimsy web of eunuch dissertations, too general for medicine, and too medical for general science. The utilitarian glances with contempt at the emasculated page, and seeks in the simple study of facts the sterling knowledge that it cannot give.

For ourselves we are contented to rest our claims for support on uninterrupted and undeviating efforts to put down what is hopothetical and vague, and to foster the spirit of seductive reasoning. It is induction, carried to the uttermost, that alone can extricate medical science from the alluvies of conjecture and uncertainty, in which it has been left by the successive deluges of systematic theorists from Hippocrates to Cullen. On morbid anatomy our induction must be founded—but that is only the foundation. Those who think that morbid anatomy has done all it can do, are undoubtedly deceived. The alterations of many tissues are yet imperfectly investigated—the earlier phenomena of morbid changes have hitherto been almost unexamined—the chemistry of morbid products is all but a blank page. It is absurd to say that we have arrived at the ultima thule of pathology. We have not all nor nearly all its primary facts—the great conclusions are yet to come. When they do come, there is still a wide field of analysis almost unbroken. Then, and not till then, shall we be enabled to decide what medicine can and cannot compass, then, and not before, can we readily determine what our remedial experiments are worth. The great object at present is to cultivate morbid anatomy, and obtain an exact acquaintance with the data that it furnishes.

But unfortunately those data are too frequently presented encumbered with error, or invested with far more importance than they merit. It is here that sound criticism is of value. Such criticism must be the offspring of experience, and that experience can only be obtained where the opportunities of pathological inquiries are great. The provincial critic can scarcely

have enjoyed them, and he probably retails the sentiments of others. In the last few years more than one attempt has been made to erect the tribunal of medical criticism in the Provinces. It has hitherto universally failed, and the same ill-success will probably continue to attend it. It would not be difficult to display the disadvantages under which a medical periodical must labour, when generated in the fields. Those fields are not the fields of science, which thrives in the busy haunts of men. Physic, like Dr. Johnson, loves "the full tide of human existence in Charing Cross." Her offspring are most lusty amidst the smoke of cities—her rural births are usually abortive. But we must return to Mr. Mayo.

Affections of the muscles and their tendons occupy a short chapter of eight pages. Yet there are some circumstances connected with the pathology of muscles, that claim the consideration of the practical surgeon and physician.

Mr. Mayo thus divides the study of diseases of the muscles;—he investigates separately the changes of their proper structure—and the morbid phenomena which result from the influence of the nervous supply they receive from the brain and spinal cord. Reparation after injury, hypertrophy, atrophy, inflammation, and malignant disease, are comprised under the first head; palsy, anaesthesia, muscular neuralgia, and spasm under the second.

The phenomena of reparation after injuries really exhibit no peculiarity. But Mr. Mayo makes one or two practical observations, which are highly deserving of attention. Surgeons would appear, for what reason it is difficult to conjecture, to entertain a horror of dividing muscles. In operations, particularly on the arteries, they will go out of their way to avoid cutting a muscular fibre, and dodge about in all directions, rather than inflict a wound upon it. To be sure, the margin of a muscle frequently affords a valuable guide to contiguous vessels. But while we acccept of the assistance that it offers, we can see no utility in preserving it religiously intact, when it is likely to interfere with the free discharge of matter that will probably be formed. We perfectly coincide with Mr. Mayo, in the following opinions and directions.

"In operations for tying arteries, or for the removal of tumours, or in any other case in which the bottom of the wound is not intended or likely to close by adhesion, it is generally preferable to *divide* any portion of muscle which intervenes between the incision of the skin and the bottom of the wound. If the edge of the muscle is *drawn aside* only, in the first place it may still embarrass the operator; in the second place, after the operation, it has a tendency to prevent the free escape of matter from the inretior of the wound, and to retard the process of healing. The promptness and completeness with which a divides muscle unites, renders the above rule unobjectionable.

If a muscle has to be divided in an operation in order to reach a part below it, it is better upon the same reasoning to divide it transversely, than to make a longitudinal section, or one parallel to its fibres." 114.

We are sure we have seen mischief from pursuing a contrary plan to that above recommended. The succeeding suggestion, or rather caution, is valuable also.

"In dividing parts in an amputation, to secure a fleshy stump, a certain proportion must be kept between the quantity of integument and muscle left, and the length of bone. But at the time of an amputation, a limb may be in one of

two different states; it may be either in full muscular strength, or it may be wasted and extenuated. A different calculation is required for the two cases. For in the first, the muscles retract very little on division; while in the second, they retract to an extraordinary degree. The reverse holds with the integument. In a strong and large limb, over which the integuments are already stretched to the utmost, they fly back to remarkable extent upon division. In an extenuated limb, in which it has already shrunk to the utmost, the skin hardly retracts at all." 114.

Mr. Mayo repeats the recommendation of Mr. Hodgson, of Birmingham, with respect to the management of stumps after amputation. Mr. H. advises the surgeon to leave the cut surfaces of the muscles exposed for twenty minutes, or for half an hour, in order that before they are brought together, they may be glazed with an exudation of lymph. Union by the first intention is then more likely to ensue. Such protracted exposure as it lengthens the period of the operation, must of course enhance the sufferings of the patient, and should be practised with discretion by the surgeon. We think it probable that, in many cases it might do more harm than good, by exhausting and depressing a weekly patient.

Hypertrophy of muscles is a rare affection. But Mr. Mayo has seen one instance in which the tongue was affected, and he relates another of a similar description, which occurred to Mr. Hodgson.

Cases. A child, when about two months of age, was observed to project its tongue beyond the gums, and to sleep with its mouth open. The size of the tongue increased, and the child took the breast with difficulty; but it grew, and appeared healthy. When eighteen months old (July, 1832), the tongue was very large and thick, projecting more than an inch and a half beyond the teeth, and served to widen the mouth considerably. The incisor teeth had formed a deep furrow upon the upper and under surface of the tongue, but ulceration had not taken place. The protruded surface of the tongue, from being constantly exposed, was covered with a coat of dried mucus. There was no appearance of diseased structure in the part. The child was weaned, and fed as other children of the same age (with spoon meat). She was always pleased with animal food, and experienced no difficulty in tearing it to pieces with the upper teeth pressing upon the tongue. There was no pain in the part. In April, 1833, the protruded part of the tongue was as large as a small orange. Mr. Hodgson removed it by the ligature, and the case did well. In May, 1835, the child had learned to read and could articulate very well.

Atrophy of the voluntary muscles presents itself, according to our author, under several forms.

The first is simple atrophy, in which the muscles become small, shrunken, flaccid, pale, and devoid of irritability. Such is the condition of the muscles of wasted or of palsied limbs.

The next form described by Mr. Mayo receives from him the name of "rigid atrophy." In this case, the proper muscular structure wastes, and the tissue which remains is tense, and hard, and inextensible. The common seat of this affection is the sterno-cleido-mastoid muscle; the distortion which it produces is termed the wry neck. But there may be other causes of the wry neck. Other muscles, besides the sterno-mastoid, may be concerned,

or the affection of that muscle may be spasmodic. We feel doubtful of the propriety of applying the term "atrophy" to an alteration, in which wasting is of secondary consequence, and perhaps even consecutive in date. The induration of the muscle is the most important and most prominent phenomenon. Hypertrophy and atrophy are terms which should be limited to augmentations and diminutions of the volume of parts, independently of other alterations of moment. Unless those terms are so restricted, the laxity and incorrectness of nomenclature that must ensue is obvious.

We have seen wry neck produced by rigidity and induration of the sterno-mastoid muscle, but we have not enjoyed an opportunity of ascertaining the precise alteration of its tissue after death. We could have wished that Mr. Mayo had related some cases in which such inspection was obtained. From the symptoms during life, we were led to suppose that chronic inflammation was present, and the remedies that effected most benefit were those adopted for its removal. We remember one case in which repeated leechings, followed by blisters and by mercurial ointment, were of very great service—indeed, we believe, effected a cure.

Dr. Mott informed Mr. Mayo that he had seen three cases of rigid atrophy in the muscles which raise the lower jaw: the effect of the change of structure had been gradually to fix the mouth in the closed position. He had succeeded, however, by means of a suitable instrument, in forcing the jaws gradually to unclose.

The third and last form of atrophy mentioned by our author deserves, we think, some notice. We will subjoin the observations and the cases of Mr. Mayo, prior to offering any remarks of our own.

"There is another form of atrophy, in which a rapid and total absorption of the muscular structure takes place. The attack has an acute character, and is attended with great pain, which looks like inflammation: yet it certainly is not inflammation of the muscle, though it possibly may be accompanied by, or even result from, inflammation of the membranes of the muscular nerve. The disease is brought on by long exposure to cold. I have witnessed the two following cases.

Thomas Styles, aged twenty-seven, a carver and gilder, four years ago, when heated with exercise, and in perspiration, was obliged in his business to keep the right hand in water for an hour; to which he attributed what shortly followed. He was attacked with pains in the arm which were considered rheumatic; and the arm was rubbed witth stimulating applications, and kept warm in flannel. Weakness of the arm, however, and wasting ensued. The arm and hand gradually became tremulous, and have continued so. He cannot raise his hand to his head, nor extend the arm horizontally, nor supinate the wrist: he has, however, the use of his hand, and can write. The muscles of the arm and fore-arm generally are extenuated; but the latissimus dorsi and serratus magnus are completely gone.

John Jeremy, aged forty-five, a farmer's workman, accustomed to frequent exposure to wet and to let his clothes dry upon him, four months ago was seized with a pain in the left shoulder, which lasted almost without intermission for six weeks: it was more severe a fortnight after its commencement: it was at times as violent, he said, as if his arm was coming off. There was no swelling or redness, no numbness, no general tenderness on pressing the shoulder, but great pain was felt on lifting the arm by means of the other hand. The arm he could not lift by its own efforts. About a week from the beginning of the illness, he observed that the shoulder had lessened: the extenuation continued progressive

after the pain had ceased; and now the deltoid, supra and infra spinati, and the teretes, appear to have been wholly absorbed, or reduced to thin layers of membrane. The shoulder is free from pain, the joint undiseased, but he has no power to lift the arm: the forearm and hand are not wasted. Pressure on that part of the deltoid which covers the circumflex nerve is now attended with pain; and at the height of the attack, when the suffering was the greatest, used to aggravate it." 118.

We are not aware of the reasons which induce Mr. Mayo to assert, that the affections in these cases "certainly is not inflammation of the muscle." In the instances which he relates, he saw the disease at a late period—four years after the commencement of the first—at the expiration of four months in the second. The cause of the affection—exposure to the influence of wet and cold—are surely not unlikely to produce inflammation of a rheumatic character in the cellular and aponeurotic structures. Nor do we see any thing in the progress of the case, to forbid the supposition that such inflammatory action occurred. Violent pain, increased by motion, and terminating in total loss of power, as well as wasting of the limb, are not improbable concomitants and sequlæ of rheumatic inflammation.

However, our suspicion of the actual occurrence of inflammation in those cases, at their origin, is founded on something more decisive than the foregoing conjectures. The deltoid muscle is frequently the seat of symptoms and of changes corresponding to those described by Mr. Mayo. We have seen at least five or six examples of this disease.

It takes place, so far as we have seen, in persons exposed to wet and cold. It commences, sometimes suddenly and sometimes gradually, with pain in the shoulder, aggravated by motion, and commonly by pressure, and preventing more or less completely the action of the muscles. The symptoms continue with little alteration, and the muscle wastes. In some instances, thickening is felt at its insertion or at its origin—in other cases this is less distinct. The neighbouring muscles are very frequently implicated, and probably the tendons of the scapular muscles, at their insertion into the head of the humerus, as well as the contiguous bursæ, are sooner or later in some degree affected.

We have at this moment under our care a gentleman who labours under this affection. He is an officer in the artillery, and was exposed to atmospheric vicissitudes while on service with his regiment in Ireland. The complaint began with pains in the left shoulder. These continued and he found increasing inability to raise his arm. Stimulating liniments, friction, and vapour-baths were employed but these means only aggravated the complaint. It was some months after its commencement, when this gentleman came under our care. There was then slight thickening and induration at the point of insertion at the deltoid, as well as at the end of the acromion. In both these situations there was tenderness on pressure. There was also tenderness at the origin of the coraco-brachialis muscle. The arm was wasted—the deltoid extremely so. This muscle was absolutely powerless, and none of the motions of the limb that depend upon it could be in any degree performed. We prescribed repeated blistering, with calomel and opium, and other remedies of less importance. At the end of a month, almost all pain and tenderness had disappeared, but still some remained at the origin of the coraco-brachialis. A slight increase of motion was obtained,

but the quantity was very trivial. So soon as *all* pain has disappeared, we intend to employ local vapour-baths. We attempted to use the moxa, but the patient had such an insuperable objection to it, that we could not persevere with it.

On the whole, we are of opinion that these affections of the musscles are inflammatory, or at all events, that they often are so, especially in their commencement. The treatment we have found most useful has been local depletion, succeeded by counter-irritation; and, so soon as *all* pain has disappeared, the stimulus of vapour-baths, electricity, and remedies of that description. Yet we must admit that permanent paralysis is greatly to be dreaded, if the malady has made progress before it comes under the surgeon's care.

Steatosis, or degeneration of the muscles into fat, is not a very unfrequent occurrence. Sometimes the change is accompanied with such pain, that amputation of the limb has been performed. Dr. Craigie mentions that Vicq d'Azyr found the psoas, iliacus, and other muscles converted into fat, which is described as white, firm, and contained in numerous minute cells; the uniting cellular tissue, whitish, looser, and more separable than usual; the fat is not deposited between its filaments, but forms part of their substance. Examined by a good glass, it presents a mass of soft transparent fibres of various diameters in different parts of their length.

We need not say any thing on ossification or inflammation of the muscles. Mr. Mayo's remarks are too brief to require notice. But we may extract the following observations on the *entozoa* found in the voluntary muscles.

"The *cysticercus cellulosæ* is found in the voluntary muscles.

The *trichina spiralis*, recently described by Mr. Owen, is an entozoon which appears to infest the voluntary muscles exclusively. The flesh of bodies beset by trichinæ spirales appears studded with minute whitish specks, which are of an elliptical figure, one-fiftieth of an inch by one hundreth, and contain a minute coiled-up worm. A few of the cysts contain two worms. The cysts are supposed to be cellular membrane condensed around the entozoon. The worm is disposed in two to two and a half spiral cords. When straightened, it measures from one-twenty-fifth to one-thirtieth of an inch in length, and from one-seven-hundredth to one-eight hundredth of an inch in diameter. It is round and filiform, terminating obtusely at both extremities, which are of unequal sizes, and tapering towards one end for about a fifth part of its length. At the large extremity, Mr. Owen observed a large, transverse, linear orifice or mouth.

The two patients, in the bodies of which these entozoa were identified, died in St. Bartholomew's Hospital, 'after long and debilitating illness, producing great emaciation; unaccompanied, however, with any eruption on the skin, or any greater loss of muscular power than would probably have arisen from the disease of which they died.'" 119.

The only affection of the *tendons* which requires specific notice is displayed in the following case. A gentleman, thirty-two years of age, after taking more exercise than usual, observed a swelling the size of half a bean on the inner and anterior surface of the tendo Achillis, which occasionally caused pain in walking. Half a year afterwards, a similar swelling formed in the other tendo Achillis at the same place: the tumors were situated about two inches above the os calcis. He applied a solution of the oxymuriate of mercury in alchohol, which produced soreness of the skin, without making at the time any sensible impression upon the swellings; and

then he thought no more about them. They still continue, but are something less in size; and although sensible, so as to be rather painful if pressed, they are otherwise without sensation.

The next chapter is devoted to affections of the cellular tissue, fasciæ, and adipose tissue. The alterations of the former are treated of by Mr. Mayo. under the heads of emphysema—serous infiltration—chronic abscesses—reparation—morbid growths—encysted tumors—and, finally, fibro-albuminous tumors.

The remarks on emphysema contain no novelty. But we will pass at the serous infiltrations which invade the cellular tissue. Of ordinary anasarca we should indeed say nothing, had not Mr. Mayo laid down a principle, which, being contained in an elementary work, requires critical notice. Mr. M. observes:—"Under the operation of various causes, of which the commonest is delay of the circulation from disease of the valves of the heart, the quantity of serous fluid in the cellular tissue may be considerably increased." We are inclined to do more than doubt the correctness of this remark. For one case of anasarca from valvular disease of the heart, we have seen very many from hypertrophy or dilatation, or both, of that organ. The fact is, that *all* diseases of the heart are apt to produce anasarca, and as valvular disease is not near so frequent as hypertrophy and dilatation, the latter are of course more ordinary causes of anasarca than the former. Such, at all events is the conclusion we would form from the facts that we have witnessed.

But anasarca is not the most serious form in itself of serous infiltration into the cellular tissue. Mr. Mayo proceeds to state:

"'There are occasions on which the fluid with which the cellular tissue is infiltrated is not simple serum, but has an acrid and stimulating quality. This is observed in the fluids of the cellular membrane adjoining a part bitten by a venomous serpent; or in the swelling which, in unwholesome constitutions, follows a severe injury, such as a compound fracture; or in the phlegmonous erysipelas.

There is nothing more formidable in surgery, than the second case to which I have adverted. An instance is now before me. A labourer, of a full, gross habit, yesterday morning early, was thrown down by a waggon, the wheel of which passed over his knee, causing a compound fracture of the inner condyle of the femur, and opening the knee-joint. He refused to have the limb amputated. At this time, thirty hours after the accident, the thigh nearly to the hip, is swollen to double its natural size, the veins full, and the skin mottled with large patches of red: the ordinary hue of the skin which attends this form of swelling, when its progress is something less rapid, is a pale coppery tint."

"4. The cellular tissue in phlegmonous erysipelas constitutes a medium along which an acrid humour rapidly finds its way, the presence of which contributes to excite suppuration and sloughing. The cellular membrane is no less the ordinary seat of common phlegmon. Phlegmonous or circumscribed inflammations often occur immediately below the integuments of the arm and of the thigh. The same often form in the nates, and about the anus. A common boil is a small phlegmon, with a central slough of a cellular membrane,—a carbuncle, a large and virulent boil." 123.

We are not quite assured of the correctness of these views of diffuse inflammation of the cellular tissue, and of what is denominated "phlegmonous erysipelas." Mr. Mayo asserts that in these affections there is an

"acrid humour" distilled into the cellular tissue, and he implies that the mischiefs that ensue are produced by the acrid qualities of that humour. But of this we see no sufficient proof, and there are many reasons for arriving at an opposite conclusion.

If an idividual receives a bite from a rattle-snake, or is inoculated by any morbid poison, and if rapid and destructive infiltration of the cellular tissue follows, it is reasonable to suppose that the fluids of the part have been corrupted, and that mortification of the skin and so forth, are the consequences of their depravation. But if, on the other hand, a man apparently in health, receives a compound fracture, and in twenty-four hours or less, serous infiltration has spread through the limb, the skin of which is mottled and subsequently dies, we do not conceive that we have any right to assume the presence of an acrid fluid. What has so suddenly vitiated the serum? Why should the fluids, which up to the moment when the injury was inflicted presented no sign of acrimony or of alteration, be invested on the instant, and after the occurrence merely of a wound, with such poisonous properties as have been assigned to it? We see no good reason for entertaing this hypothesis, if a simpler one will equally explain the facts.

And a simpler one will, we conceive, explain them. The cellular tissue, from its structure and composition, favours the rapid diffusion of fluids thrown into it. We are all practically acquainted with the fact, that in strong and healthy persons inflammation of a part is disposed to be arrested by the effusion of coagulated lymph. Setting aside theoretical considerations, this is an admitted fact. If, then, an injury occurs to a person of bad habit of body, in whom the inflammation is not readily bounded by the deposition of lymph, and if in such a person the injury has effected the cellular tissue, observe the consequences that ensue. An inflammatory serous effusion is rapidly poured into the tissue—the structure of the latter promotes its transmission from cell to cell, and no sufficient barrier of lymph is found to confine it—the cells of the cellular tissue distended with the effusion, and deprived of a proper supply of blood, lose their validity and slough—the skin, deprived of its vascular support, sloughs too, but *after* the cellular tissue—and, finally, the other tissues are secondarily involved to a greater or a less degree by the extension of the rapid yet low inflamatory process. Such is the more simple explanation we would offer of the phenomena presented by diffuse inflammation of the cellular tissue. To say there is an acrimonious humour generated is to assert what has not yet been proved, and what is in itself exceedingly improbable. The two essential causes of the wide and the rapid extension of inflammatory effusion and its consequences, are, the nature of the cellular tissue on the one hand, and impaired constitutional powers on the other.

5. After observing that chronic abscesses form the subcutaneous, intermuscular, and inter-fascicular cellular tissue, and after noticing, in illustration, abscesses in the thigh, in the loins, and psoas abscess, Mr. Mayo proceeds:

"Another kind of chronic abscess occurs in the cellular mebrane. The two following cases may serve to exemplify this disorder. In the first of the two, the inguinal lymphatic glands participated in the disease.

A middle-aged man had for several months a tumor in the groin, which had formed very slowly: it was about the size of two half oranges, but presented

three or four rounded elevations: he had experienced little pain in it. Shortly before his admission into the Middlesex Hospital, the skin had become red and softer at one part of the tumour. The swelling had greatly the appearance of malignant disease. The soft and red integument now threatened to slough: I punctured it, when a little air and fætid ichor escaped. The integument, by sloughing and ulceration, in a few days gaped for some extent, and nodular granulating masses were seen within. No further unpleasant feature, however, presented itself; and without any great quantity of discharge taking place, the swelling slowly subsided, and the part healed.

There is a middle-aged man now in the Middlesex Hospital, who was admitted eight weeks ago, with the calf of the leg immensely swollen, the skin of a dark red, with a small hole in the middle, through which some thin pus found vent. Some months before, he had been kicked by a horse on the calf of the leg, to which he attributed the swelling. Placed in bed, and the leg poulticed, the swelling diminished at first rapidly; the discharge, however, was very inconsiderable in quantity. A probe being introduced passed below the gastrocnemii: the external wound was enlarged a little; the abscess got well. But at the same time this patient showed me a swelling on the back of the fore-arm, as large as, and much of the figure of, two half walnuts: it had been a year forming, and latterly had become painful: it adhered to the periosteum covering the posterior edge of the ulna, and to the aponeurosis. My attention was now drawn to the general health of the patient, and I found that he had had for many months a scaly eruption upon the skin; and he said that a year before, a tumour like the present, only less, had formed at the corresponding part of the other arm. I gave him, upon this, the decoction of sarsaparilla, with the oxymuriate of mercury: his health began to improve, and the scaly eruption to die away; but the lump below the elbow increased in size. I therefore punctured it with a lancet in three places, where it was most elastic; it bled freely, and at one part small fragments of lymph escaped with the blood. The swelling was poulticed, and is now beginning to suppurate, and lessens daily." 125.

We have seen several cases resembling those described by Mr. Mayo. As we consider that description imperfect, we will take the liberty of adding to it what we have had an opportunity of observing.

In persons much deranged in health, and particularly in those who have lived freely, and, perhaps have been rather suddenly reduced by medicine or in diet, it is not very unusual for a diffused swelling to occur in some portion of a limb, most commonly in the calf of the leg. There is obscure fluctuation, sometimes scarcely exceeding the *bogginess* noticed in diffuse subcutaneous inflammation—the skin is of a darkish red colour, without any defined erysipelatous margin—there are excessive pain and tenderness on pressure—and the general symptoms are of a low, if not actually a typhoid character. In the calf of the leg, in which we have seen this form of abscess, it was seated between the gastrocnemii and the deep flexor muscles. The matter was dark, and the cellular tissue sloughy. In one patient there was obstruction in the femoral artery, in consequence apparently of calcareous deposition in its coats, and coagulation of the blood within it. One patient with this form of abscess died and enabled us to ascertain that there was only a sort of sloughy abscess in the situation we have mentioned; the other patients that we have had an opportunity of seeing recovered.

The preceding is one form of abscess occurring in the cellular tissue in persons in a cachectic condition. We will mention a case that displays another description of abscess.

An old man was received into St. George's Hospital with what seemed

to be a tumor on the side of the neck. It was of considerable dimensions, lobulated on the surface, and presenting in several of the lobular masses a feeling exactly resembling that communicated to the touch by fungus hæmatodes. It was thought to be a fungoid tumor. After a short time a slight erythematous blush appeared upon one of the most prominent lobules; the skin ulcerated; a whitish mass was discharged, evidently lymph entangled in dead cellular tissue; suppuration and granulation followed; and the cavity gradually filled up. The same thing occurred with the other lobules in succession, in some there being lymph and pus, in others merely lymph. Thus the disease was cured. The patient was in a very cachectic state, and the general treatment consisted in the exhibition of stimulants and tonics.

A species of cachectic abscess similar in some degree to the preceding, has sometimes been called the "subcutaneous tubercle." The patient is almost always in bad health, and frequently in the state resulting from abuse of mercury. In different parts of the body, but more especially in the lower extremities, rounded nodules are felt immediately beneath the skin, to which they communicate a more or less distinct projection. These nodules vary in size from that of a large pea to that of a good sized walnut. At first they are scarcely tender on pressure, and the skin is not discoloured, but as they increase a little redness appears upon the skin, which gradually grows thinner, and at length ulcerates. The aperture thus formed is not large, and displays a whitish deposition in the subcutaneous cellular tissue. This is unorganized lymph, opaque, and sometimes of caseous consistence. The cells in which it is deposited die, apparently from their vascular supply being cut off. After the ulcerated opening has attained sufficient size, the lymph and slough come out, and a granulating cavity follows. This is the course which the majority of the tubercles run. Some, however, even after attaining a certain magnitude, become absorbed.

We have mentioned these facts because Mr. Mayo has only imperfecty described the varieties of suppuration to which the cellular tissue is subject. In fact, we may observe that the diseases of this tissue have not hitherto been well described, numerous as the descriptions of them have been.

Passing over a notice of the reparation of cellular tissue, and of encysted tumors, we may pause at Mr. Mayo's description of a fibro-albuminous tumor which occurs in it.

"Another growth, and which is perhaps confined to the cellular tissue, may be termed fibro-albuminous tumour. It sometimes occurs in the cellular tissue of the breast, and grows to a considerable size, having much of the external character of malignant disease. In the following instance this growth occurred in the cellular tissue of the parietes of the abdomen.

William Latham, ætat. forty-seven, was admitted into the Middlesex Hospital, in July, 1835, with a tumour upon the umbilical and left iliac region. It is twenty years since he first noticed a small lump below the skin, of the size of a pea, which gradually enlarged, but was not painful. Six months ago, it was as large as a small egg; and a surgeon, whom he consulted, tried to break it by pressure. The skin gave way, when the swelling enlarged rapidly; at the time of his admission, the swelling looked a great fungoid tumour, five inches in diameter, an inch and a half in thickness, and adhering by an oval pedicle three inches in its long diameter. The surface of the tumour was lobulated, and covered with large flat granulations, of a pale red colour, which secreted matter. The tumour had bled frequently and profusely, not from the whole surface, but

from two or three points. Since it had been broken, the patient had frequently experienced shooting pains in it, which lasted two or three minutes. He was greatly reduced by the bleedings and the discharge. The skin round the pedicle of the tumour was mottled of a dark red, and several tortuous and swollen veins extended from it in different directions. The inguinal glands were not enlarged.

I removed this tumour on the 23d of July. It was situated upon the external oblique muscle and its tendon, from which I dissected it: two vessels only required to be tied. The wound granulated healthily; and a few days made a remarkable improvement in the patient's appearance and strength, who is now [August 10] all but recovered.

On examining the tumour it was found to consist of two distinct masses; one of the size of a walnut, seemingly of later formation, contained in a clean membranous capsule, firm, of no great vascularity, grey, semi-transparent, elastic, easily breaking down with pressure. The other, which had formed the more prominent and larger mass, was of much greater size: its base was covered by integument, the giving way of which, six months before, had allowed of or given rise to its rapid increase, and exposed it as a vascular and secreting surface. In one part of the larger mass, and inclosed in it, there was a second growth, opaquer in colour, and more fibrous in character, not unlike, though less firm than, the ordinary fibro-cartilaginous tumour of the uterus.

I assisted Mr. Broughton in removing a large tumour from the thigh of a female, which had very much the character of the smaller and more fibrous portion of the tumour described above. But it was of a more gristly texture, or more closely approximated to the fleshy tumor of the uterus. It appeared to have formed in the intermuscular cellular tissue." 127.

Experience, we fear, does not materially increase our confidence in the artificial distinctions which are drawn, between the various forms of sarcomatous tumor. The pathologist traces minute discrepancies between tuberculated, pancreatic, scirrhous, and medullary deposites, but their diagnosis previous to their removal is uncertain, and the final result of operations is precarious. When some marked distinction between the mass we have extirpated and true malignant formation exists, we too often find that malignant growths follow in other organs notwithstanding; and occasionally, though unfortunately, very rarely, what appear to be genuine cancerous tumors are extirpated with permanent success. In the midst of this uncertainty, the surgeon is compelled to look upon all these tumors with suspicion, and to distrust those flattering promises of cure, which reliance on our powers of discriminating the malignant from the non-malignant growths is calculated to engender.

The affections of the aponeuroses and fasciæ are summarily disposed of by our author. Yet not so summarily but that criticism may take exception at the doctrines.

Aponeuroses, observes Mr. Mayo, are liable to simple and specific inflammation. "The first is the most frequent untoward consequence of ordinary bleeding. The wound festers, the arm and forearm adjacent to the elbow are swollen and painful, and the skin has a slight blush on it." This is the echo of the common notion; yet we we doubt if that notion is correct. Aponeuroses and fasciæ are certainly not *liable* to inflammation, or rather they are not prone to it. After injuries of a limb, it is the cellular tissue that commonly inflames, and the fasciæ suffer in consequence. If such is the case after injuries in general, why should we suppose that the prick of a

lancet exerts such a peculiar influence on the fascia of the arm? Is there any thing in that weapon that should render it so obnoxious to the fascia, or is there any thing in that fascia which should make it more susceptible of inflammatory action than the fasciæ are elsewhere? If there be, we do not know it. But we have better reasons for believing that it is *not* the fascia which constitutes the essential seat of the inflammation, than reasoning of this description. We have examined arms after death in which such symptoms as Mr. Mayo has alluded to occurred. The inflammation and the suppuration were in the cellular tissue, above the fascia or below it. If above it the fascia was little affected; if below it, just as much as it usually is in subfascial inflammation of other parts. The fact is that Mr. Abernethy's descriptions of inflammation of the fascia are hardly consistent with the present state of pathological knowledge.

The only observations on the alterations of the adipose tissue, requiring any notice, are comprised in the following case, communicated to Mr. Mayo by Mr. Samwell. The case in question exhibits a peculiar and rare deposition in the adipose tissue.

"A female, ætat. thirty-six, after suffering from rheumatism, had a swelling of one instep, which, however, went away; but shortly after, the leg began to enlarge, and became painful. The increase in size was very gradual; but in four years the leg had become twice as large as natural. The swelling was diffused over the whole leg, but was greatest upon its outer aspect: to the touch it felt elastic like Indian rubber. The skin was not discoloured. Mr. Samwell punctured the swelling, when a thick semifluid substance, like grumous blood, escaped; upon which he enlarged the puncture to a long incision, and squeezed out more of a similar nature. The wound healed readily. But the swelling, at the side where it had been opened, filled again, and the skin began to ulcerate. The limb was then amputated above the knee; the patient recovered, and has been four years well.

Upon examining the swelling, it was found to be exterior to the fascia, and situated in the adipose tissue; which, where the enlargement was greatest, was three inches in thicknes, soft, grumous, and red. At the extremities of the swelling, the adipose tissue seemed infiltrated with a gelatinous substance only. Intermediately, there was a transition in colour between the pale gelatinous swelling of the adipose tissue near the knee and ankle, and the sanguinolent and grumous effusion in the middle of the tumour. No other tissse appeared to be diseased." 129.

From the adipose tissue, Mr. Mayo passes to the nervous. To that he dedicates one hundred pages, and concludes the present part with the pathological alterations of the skin. The latter is more naturally considered in connexion with the cellular tissue and the adipose, and we shall pass over the morbid anatomy of the brain and nerves, for the purpose of uniting the textures that Mr. Mayo has severed, perhaps with unnecessary violence. As the text of Mr. Mayo continually presents us with opportunities of introducing observations that illustrate, or that oppose it, we shall not have room in the present article, for the consideration of the organic alterations of the nervous system. We shall defer our notice of them to the ensuing number of this Journal.

Our author remarks, in reference to the alterations of the skin, that they can be scarcely deemed adapted for enumeration and description in an elementary treatise. Many are too trivial, and many too important, for the

crippled notice that such a treatise admits of. He divides the subject into three sections—affection of the skin which have points in common with the pathology of other organs—the eruption of the skin—and finally, its principal ulcers. Almost all the second and a part of the first section are avowedly built upon Rayer's work. Our notice of this chapter will, therefore, be brief and unconnected.

In the observation on injuries and reparation of the skin, we observe the following passage. After alluding to the condition familiarly known as chilblain, Mr. Mayo remarks:—

"White gangrene is an affection of the skin, in which, without any assignable cause or preliminary symptom, patches of skin, of the area of one, two, or three square inches, suddenly die. White gangrene occurs sometimes on the breast. In the museum of King's College there is a model of white gangrene, in which the disease attacked the arm, several patches of cutaneous gangrene successively formed: the sphacelated parts were white from the commencement of the process to their separation, when healing and healthily granulating sores were left." 231.

Probably the great bulk of our readers would scarcely comprehend the nature of the affection to which the preceding passage alludes. We must regret that the passage is so brief, referring as it does, to a disease which, so far as we know, has not yet been sufficiently investigated or clearly described. We have seen two instances of this curious malady, and, as we possess the notes of one, we will take the liberty of introducing here a succinct account of it.

Case. A girl, aged 18, was admitted into St. George's Hospital in Sept. 1830, under the following circumstances. For a month prior to her entrance into the Institution, she had several attacks of gangrene of the skin of both arms. The gangrene made its appearance in the following way:—

First, a diffused redness, with rether a glossy appearance on the surface, shewed itself on some part of the skin. This was sometimes preceded by shivering and fever. On the second day, patches of a pearly or blueish-white color made their appearance in the centre of the redness; they became confluent, and so a large whitish patch, three or four inches in length, and about two in breadth, with a red margin around it, was produced. There was no elevation of the cuticle. In six or seven days, the white patch of skin was surrounded by a groove, formed by ulcerative absorption. Afterwards the inclosed cutis was thrown off as a slough, leaving a clean granulating surface, to all appearance the deep layer of the cutis.

If left without covering, the pearly white patches became quite dry, and looked like parchment. Some seemed to have a slight layer of pus beneath them—others to have a serous fluid as their substratum. But it was dubious whether either was really present.

The health of the patient was good, excepting when she suffered from the occasional pyrexia. Her complexion was rather fair, and inclined, perhaps, to strumous. The menstruation was regular. She had lived for two years in London. She had not been confined to any particular description of diet. She had taken for the affection opening medicine, aloes, and bark.

On the 12th of October, a fresh invasion of the disease occurred, and the following phenomena were exhibited. On the dorsum of the right foot was

a patch, erythematous redness, extending a little way up the front of the leg. In the centre of this were here and there the dead-white patches, looking as if a solution of chalk had been dropped upon the part and dried there. The surface of these patches had a slightly scaly appearance. There was much tenderness on pressure, and some swelling of the dorsum on the foot, from slight subcutaneous effusion. The pulse was full.

On the 13th, the white patches had extended somewhat, and assumed more of the appearance of minute scales. The redness around had become more circumscribed, and displayed here and there minute ecchymoses. There was an indistinct sensation communicated to the finger of fluid being effused beneath one of the white patches; but, on puncturing it with an exploring needle, this was ascertained not to be the case.

On the 14th, the surrounding redness had subsided into a kind of *cordon* of ecchymosis, immediately encircling the white patches. This ecchymosed part was sensibly elevated above the level of the latter.

On the 16th, two or three little islands of cutis, sound, but exhibiting ecchymosis, had appeared in the centre of the white patches. In these spots, the cutis had evidently not quite died, and was recovering itself. On the 19th, the ulcerated groove at the margin of the white patches had made its appearance.

In the night of the 23d she had a rigor, succeeded by pyrexia. A similar occurrence in the night of the 26th was immediately followed by erysipelas of the leg and foot. The erysipelas did not entirely disappear until the 18th of November. The sloughs of skin had, in the interim, been thrown off, and the ulcerations had healed. The leg was swollen. On the 22d she was made an out-patient, and we have not, since that period, heard of her.

We have given this case at some little length, because it exhibits tolerably well the characters of a peculiar gangrene of the skin, which has probably not presented itself to the notice of many of our readers. In another case which we witnessed, precisely similar phenomena were displayed. The gangrene of the cutis was immediately preceded by an erythematous blush. In neither instance did the whole substance of the cutis seem to suffer, the slough appearing to be limited to its superficies, and granulations afterwards springing from its chorion.

The causes of the complaint are involved in obscurity. In neither of the cases which came under our observation, was there any thing appreciably wrong in the system or the part. In the girl whose case we have related, menstruation was regular; in the other patient (a female of about thirty years of age) the catamenia were deficient in quantity, and did not appear so often as they should do. The remedies tried in the hospital were bark, and various emmenagogues. They appeared to exercise very little influence over the disease.

Hypertrophy of the Skin. Mr. Mayo refers to the skin of a person whose arm is modelled in the King's College museum. It is thickened upon the back part of the limb, of a brown colour, and hangs in a thick pendulous flap several inches in length. The hypertrophy was congenital.

The integuments of the nose are particularly liable to enlarge and thicken. After the removal of a part of the hypertrophied mass, the wound cicatrizes wholesomely. Mr. Mayo remarks that, in the elephantiasis of the Arabs

and in the Barbadoes leg, the skin is the seat of the hypertrophy. In two dissections of the Barbadoes leg, which we made, the principal growth was in the subcutaneous adipose tissue.

Hypertrophy of the papillæ of the skin occasionally succeeds or accompanies ulcers of the leg, the application of blisters, eczema, and impetigo. The papillæ becomes particularly apparent when the part affected is plunged in water, and look mamillated and uneven, like the pile of coarse plush or velvet. The skin in these cases is habitually covered with scales of epuidermis, sometimes micaceous in appearance, generally brown and easily rubbed off.

Unnatural blackness of the skin has been met with. Mr. Mayo quotes the case.

"A lady, says Lecat, about thirty years of age, became pregnant. About the seventh month the forehead assumed a purple hue, of the colour of iron rust: by degrees the whole face became entirely black, except the eyes and the edges of the lips, which retained their natural colour. The hue was deeper on some days than others. This lady being naturally of a very fair complexion, had the appearance of an alabaster figure with a black marble head. Her hair was naturally exceedingly dark; but the part of it which grew from the dark-colored skin appeared coarser, and filled with a blacker sap than the rest, to the height of about a line or two above its roots. She did not suffer from headache; the appetite was good; the face after becoming black was very tender to the touch: the black colour disappeared two days after her accouchment, with a profuse perspiration, by which the sheets were stained black. The child was of a natural colour. In the following pregnancy, and even in a third, the same phenomenon re-appeared in the course of the seventh month: in the eighth month it disappeared; but during this month the lady became subject to convulsions, of which she had an attack each day." 233.

The skin has also assumed an unnatural whiteness, both in blacks and in Europeans. The precise cause of these changes of colour do not appear to be determined. The slate colour produced by nitrate of silver seems to be seated in the chorion. Mr. Brande detected oxyde of silver in the stained tissue.

Scirrhus, medullary sarcoma, melanosis, occur in the skin. This is the seat of what is denominated cheloid tumor.

"A reddish point, of the form and dimensions of a grain of barley, rising on some point of the healthy skin, or on the cicatrix of a small-pox pustule or burn, is first observed, which slowly enlarges, its surface covered with numerous transverse wrinkles, but smooth. Increasing, it preserves its redness and harshness, and shapes itself either as a broad cylindrical crest or ridge, or as a flattend tumour, sending off prolongations from its circumference, having some resemblance to the claws of a crab. This growth is of a rare occurrence; it does not ulcerate; when removed, it has returned: left to itself, it has after some time been found to shrink." 236.

The perspiration varies in its sensible qualities. All are familiar with excessively acid perspiration of rheumatic fever—with the very offensive perspiration of ague. In persons laboring under the purulent deposites, the perspiration has a sickly odour, of a very peculiar description. But probably few have seen *blue sweats*. Such a case has been related by Ballard, and is transferred to the pages of our author.

A laundress, aged 16, stout in person, pulse regular, catamenia natural,

strength and appetite good. but with a loaded tongue and dry cough: presented on the neck, face, and upper part of the chest a beautiful blue tint of the skin, principally spread over the forehead, alæ nasi, and round the mouth. When these parts were wiped with a white towel, the blue colouring matter was detached from the integument, and stained the towel, leaving the skin white. The blueness of perspiration had commenced two years previously, when she entered on her profession of washerwoman.* After repeated venæsection, sulphur and sarsaparilla were given without benefit. The forehead, face, neck, and belly now became shaded with an azure blue, which spread like clouds, and appeared deeper or paler according as the cutaneous circulation was accelerated or retarded; when for example the patient should have blushed, the face became blue instead of red. The face, the fore-part of the trunk, the shoulders, the arms and a portion of the thighs were alone coloured. The linen of the patient was stained blue. Shortly after this the urine became very scanty, and for three days the patient did not pass a drop; the blue coloring mater became more abundant: there was profuse perspiration at night. The patient experienced great amendment when taking several doses of bicarbonate of soda, which had been found by experiment to neutralize the colouring matter. At length the face only retained a slight blue discoloration, which was increased by exposure to heat, agitation of mind, fatigue, or the catamenial period. The blood that was taken from the arms had the usual appearance. Some that she vomited contained a sufficient quantity of blue coloring matter, to stain the sides of the vessel.

The sebaceous secretion may be morbidly increased—or it may be morbidly altered in quality. In the latter instance where the face is commonly affected, the skin of the cheeks, nose, or eyebrows, appears covered with a kind of yellowish scurf, nearly of the color and consistence of the cerumen of the ears. The skin looks thickened and unctuous around this deposit, which in some points is moist and oily, and in others of the consistence of yellow wax.

We pass over the catalogue of eruptions of the skin. We suppose it was necessary to introduce the chart, in order that the pathological cabinet might be complete. But, whether that was required or not, we cannot extend the same indulgence to the attempt to give a sketch of syphilis. The surgeon acquainted with this singular disease will smile, when he is informed that Mr. Mayo writes of primary syphilitic ulcers thus.

"They present four varieties:

a. A circular ulcer with raised edges, the base and edge soft, commonly preceded by a pustule.

b. A circular ulcer, raised above the level of the skin, without harshness.

c. Excavated ulcer: the base and edge hard, as if formed of a cup of thin cartilage; commonly surrounded by a red vascular line; with little secretion. *Hunterian chancre.*

d. An ulcer spreading rapidly in circumference and depth, the surface soft and yellow, with red points showing through the secretion, the base and edges

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* The Printer's Devil suggests that the complaint might depend on the use of the "blue bag."

soft: the edge of the skin red and inflamed, and often hard. *Phagedenic ulcer.*" 261.

There is no hesitation, no reserve, in laying down the preceding as *the* syphilitic sores. Yet, if we were asked to point out an arrangement open to objection, we should lay our finger on this. It possesses in almost an equal degree the sins of omission and of commission. Some of the most remarkable syphilitic sores are peremptorily shut out, while varieties differing only in accidental circumstances, are as arbitrarily let in. But we quarrel with the dogmatical tone of Mr. Mayo. He seems to entertain no doubt upon a suject which perplexes most those who most study it. And his therapeutetic precepts are as positive as his diagnostic. There are, he says, asthenic and asthenic and phagedænic ulcer. In the former case bleeding rarely fails to arrest the progress of the disease—in the latter, cauterization by nitric acid. Mr. Mayo has here generalized absolutely on the observations of others. A more extended experience in syphilis will convince him, that these two turnpike roads are neither so broad nor so straight as he supposes. We will not criticise two cases adduced in illustration—striking examples of the consequences that must result from such notions and such doctrines on phagedæna. In the next edition of these Elements of Pathology, we would recommend our author to expunge the section upon syphilis, with which he is too imperfectly acquainted to allow him to speak with certainty or safety.

Here we must conclude our present notice of the work. If our last words have been those of censure, that was the effect of accident. Its merits as a manual are far from inconsiderable. In our next we shall refer to it again, and present a sketch of the pathology of the nervous system.

We now turn to the Fasciculous of the work of Dr. Carswell. It is dedicated to the subject of—

Hypertrophy.

Hypertrophy may be defined as an excess in quantity of the solid materials of some portion of the body; it is opposed to atrophy, which is its converse. Hypertrophy may be simply a matter of physiological consideration, or it may amount to a morbid state, interfering with the functions of the organ it invades, and forming a legitimate object of pathological investigation. It is chiefly in the latter point of view that Dr. Carswell regards it.

Dr. Carswell does well in avoiding a lengthened and unsatisfactory discussion of the *quomodo* of hypertrophy. When we say that it appears to result from an excess of the nutritive function of the part, we advance as far as we can safely go. We know so little of the modes of vital action, that our terms can express nothing save some obvious facts, of the nature of which we are profundly ignorant. The process by which a part attains its natural form and dimensions, and, when attained, preserves them, we denominate nutrition. How, or where, or why, the molecular deposition occurs, is a mystery we cannot solve. Such is the case with hypertrophy. It appears to result from an excessive action of those vessels which naturally nourish the part; and this is all we can venture to affirm.

It appears certain that an increased supply of blood is requiste for the production of hypertrophy. The vessels which proceed to the affected organ commonly augment in volume and capacity. In hypertrophy of the muscular tissue, this is distinctly the fact. Every one who has injected limbs knows how much more readily the wax is forced into the arteries of a muscular subject, than into those of a person in whom the muscles have been little used. Great employment of an organ, particularly of a muscular organ, tends to occasion its hypertrophy. This is seen in the muscles of voluntary as of involuntary motion. The arms of the blacksmith, or the waterman, and the legs of the opera-dancer, shew the influence of exertion on the former—the hypertrophy of the heart in those who have undergone great toil—and the increase of the muscular coat of the bladder in those who have suffered from any cause, under difficulty or frequency of micturition, exhibit analogous effects in the muscles which are not controlled by the will.

Origin and Causes of Hypertrophy.

"Hypertrophy," says Dr. Carswell, "occurs under circumstances so very various and so different in kind, that a correct estimate of its nature, in individual cases, could not be obtained without a previous knowledge of the causes in which it originates. The most remarkable difference in this respect is observed in that form of hypertrophy from arrested or imperfect development, in consequence of which an organ retains after birth that relative condition of bulk which was necessary to its accomplishing a function peculiar to the fœtal state of existence. This is observed sometimes to occur in the heart, an organ which, before birth, is in that state of hypertrophy called concentric. The thickness of the walls compared with the capacity of the ventricles of the heart in the fœtus, is nearly twice that of the walls compared with the capacity of the ventricles of this organ in the adult. This relative disproportion between the walls and cavities of the fœtal heart is conspicuous in infancy and childhood; but during the regular development of the body, it gradually merges into those proportions of capacity and bulk which are regarded as indicating, in these respects, the normal state of the heart. If, therefore, the changes which should take place in the regular developement of the heart after birth are prevented, it is obvious that the permanence of the state of the fœtal heart which we have described, must, under new and so very different conditions of life, constitute a pathological state, a state of concentric hypertrophy, and give rise at an early period to those derangements of function which follow as the consequences of this disease; and that such is the origin of some cases of this form of hypertrophy is proved by a careful examination of their early history, and of the organ itself after death.

It is worthy of remark, that what may be called *congenital hypertrophy*, may be accompanied either by an increase or a diminution of the bulk of the heat. I have not, however, found that the bulk of this organ, compared with the size of the body in such cases, was very much increased. I have met with it oftener of the normal bulk, and once so small, in the body of a female above the age of forty, that it did not exceed the dimensions which it usually presents at the age of twelve or thirteen."

The causes of hypertrophy may exert a local or a general influence—in other and more correct phraseology, hypertrophy may affect a part from causes evidently acting exclusively upon it; or it may affect, at the same time, many parts from causes of a less particular description. As an instance of the latter, we observe the enlargement of the bones, lymphatic glands, the upper lip, and other organs in scrofula. The excessive growth of the

adipose tissue that occurs in some individuals, must also depend on some general cause.

The local causes of hypertrophy are arranged by Dr. Carswell under three heads—1st, the frequent and increased action of an organ in the normal exercise of its function; 2d, the existence of a mechanical obstacle to the accomplishment of the function of an organ; 3d, the long-continued influence of a morbid stimulus. Hypertrophy under the influence of one or other of these causes occurs in almost all the organs and tissues of the body. It may affect an entire organ, or one or more of its elementary tissues—exist as the only perceptible lesion—or be accompanied with other diseased states.

The examples of hypertrophy from extreme action of the organ in the performance of its natural function, are so numerous and so familiar that they scarcely require enumeration. The legs of the danseuse—the arms of the waterman—the hearts of those who have been subjected to excessive corporeal exertions, all afford instances of hypertrophy of this description. We see the same thing in viscera or in parts which are required to do more than usual work, in consequence of defects in other viscera or other parts. If one lung, for example, be compressed, the other is enlarged—if one kidney is diseased, the other increases in dimensions. We need not multiply instances of this sort.

The second kind of hypertrophy, that resulting from a mechanical obstruction to the accomplishment of the function of an organ, is very common. The heart becomes hypertrophied, from contraction of the aorta, or of the pulmonary artery, or of the auriculo-ventricular apertures. Contraction of the pyloric orifice of the stomach and of various portions of the intestinal canal, from the gradual development of accidental formations within their parietes, or projecting from their internal surface, or from the cicatrization of ulcers, more especially of the latter, are by far the most frequent causes of hypertrophy of the muscular coat of these organs, and which, in consequence of the accumulation of their contents, is always accompanied by an increase of capacity or dilatation. Diseases of the prostate gland and stricture of the urethra, which obstruct for a long time the passage of the urine, and occasion an accumulation of this fluid in the bladder, are followed by hypertrophy and dilatation of this organ to a greater extent than is observed under any other circumstances. Obstruction in the course of the ureters occasions dilatation of the canal above, and thickening of its parietes. A similar enlargement is seen under similar circumstances in other excretory ducts. Dr. Carswell relates a remarkable case of dilatation of the lymphatics in the groin.

"M. Amussat, of Paris, was called to a young man, about twenty-six years of age, who the day before had been seized with severe pain in the abdomen, followed by frequent vomiting. These symptoms, and the presence of two swellings, one in each groin, nearly as large as an orange, left no doubt that the patient was labouring under the effects of strangulated hernia, but the state of prostration was such that reduction by an operation was not attempted. On examining the patient after death, the only remarkable circumstance observed was enormous dilatation of the lymphatics from both groins upward, including the thoracic duct. The two swellings situated in the groins, and which at an early age of the patient had been treated as a case of *double herniæ*, (for we afterward learned that he had worn a double truss from his boyhood,) were found to be produced by great dilatation of the lymphatics of the inguinal glands.

When cut into, instead of having a compact structure, they presented the appearance of a coarse sponge, from the size of all these vessels being increased, the most of them presenting from one to three lines in diameter. All the lymphatics of the pelvic and lumbar regions presented the same alteration in a still more remarkable degree. None of them were less than two, many of them from three to four lines, and the thoracic duct was from six to eight lines in diameter. As no obstacle was found in the course or at the termination of the thoracic duct to account for the dilatation of the lymphatics in this singular case, and as these vessels had undergone no other perceptible change, I am disposed to consider it as an example of *malformation* of these vessels, more especially when these facts are connected with the circumstance furnished by the history of the case, viz. the existence, at an early period of life, of the enlarged state of the inguinal glands, the nature of which I have explained."

The third variety of hypertrophy from local causes, or that arising from the long-continued influence of a morbid stimulus, is of constant occurrence in the cutaneous, mucous, cellular, fibrous, osseous, and glandular organs—not unfrequent in the involuntary muscles—and is occasionally seen in the brain, the nerves, and their ganglia. Dr. Carswell, however, observes that it is often difficult to discriminate this simply hypertrophic state, from that in which inflammatory action has led to the deposition of coagulable lymph which has subsequently become organized.

Examples of this sort of hypertrophy are common in the cutaneous and mucous tissues, in chronic ulceration of both, and in irritation and chronic inflammation of the latter, especially of the mucous membrane of the air-passages, digestive canal, and urinary bladder. Not only may the whole tissue be rendered hypertrophic, but its component parts may be unnaturally developed, and its texture, thus magnified, may become more apparent and distinct than in its normal state. Andral has related an interesting example of this species of hypertrophy in the skin of the right leg, which, thirteen years before had been ulcerated, and had afterwards greatly increased in size. On examining the thickened skin from within outwards, it was found to consist, 1st, of the *cutis vera*, much thickened; 2d of the *papillary tissue*, which, distinguished with difficulty from the former in the natural state, was in many points much enlarged and elongated; 3d, of three layers situated between the latter and the epidermis, differing from each other in colour, consistence, and structure. The first of these layers covering the papillary tissue was considered to be analogous to that which Dutrochet has called the *epidermic* layer of the papillæ; over this again was situated another layer of a dark grey or brown colour, having a reticular structure, occupying the place of, and obviously analogous to, the *rete mucosum;* and lastly, a much thicker and harder layer than the two former, which, existing only in a rudimentary state in man, presents various degrees of development in animals, and contributes to the formation of shell and horn.

A similar developement, from chronic inflammation, is observed in the elementary structure of the mucous membrane, as well as of its follicles and villi. In the mucous membrane of the bronchi and of the urinary bladder, in which villi are not distinguished in the state of health, they become developed when hypertrophy takes place.

Hypertrophy of the cellular tissue from irritation, or chronic inflammation, is probably the most common of all. The subcutaneous and submu-

cous cellular tissue are most frequently affected. Serous membranes do not seem to be liable to hypertrophy, nor is it marked in the fibrous membranes or in tendons. Dr. Carswell looks on the atheromatous and steatomatous deposites which occur on the surface of the middle coat of arteries and veins, or between the middle or the inner coat, as examples of hypertrophy of the former. Such at least is the interpretation which we put on his expressions, which are obscure and vague. If we do not misunderstand Dr. Carswell, we must beg to differ from him. Those deposites are as obviously a new formation, as the cheesy matter of scrofula, or tubercle, or any other morbid production. Even granting that the middle coat becomes thickened from the irritation excited by the presence of these new substances, that is clearly the result of chronic inflammation, and the tissue is not only thickened but altered. Now hypertrophy, if it is to be considered a substantive complaint, must consist of an increase of the natural structure of the part. If augmentation of bulk from alterations of structure be looked on as hypertrophy, there can then be no limit to the term, and all morbid growths, all organic changes attended with increase of substance, must necessarily be included in this generic designation. So far as we have seen, the alterations of the middle coat of arteries have not been fair instances of simple hypertrophy. Most frequently, the middle coat is rather absorbed than thickened, but when thickened we have found the structure altered, and the properties which depend on the natural structure, elasticity and contractility, sensibly impaired. Dr. Carswell presents a description of the changes which he has seen in cases of aneurism of the heart, which is not unworthy of attention. The quotation is unavoidably long.

"The first perceptible lesion in aneurism of a portion or of the entire walls of one ventricle of the heart, (of which I have met with several examples, and always in the left ventricle,) is in every respect similar to that which so often precedes the formation of aneurism of the arteries. The serous membrane lining the internal surface of the ventricle, presents within a circumscribed space, varying from a quarter of an inch to one or two inches in breadth,—or, as in two examples which I have met with, from one-half to two-thirds of its entire extent,—a pale-straw colour; it has become opaque, is closely united to the cellular tissue beneath it, which presents the same colour, and is considerably thickened. Occupying the situation in which these changes are perceived, and sometimes nearly to the same extent, are one, two, three or more depressions, cavities, or sacs. These are lined by the serous membrane and cellular tissue, which appear as if they had been gradually extended and pushed onwards, carrying before them and ultimately causing atrophy of the muscular substance of the heart, the only change which it suffers in such cases. The formation of the cavity or aneurismal sac depends obviously on two causes; 1, the loss of resistance in the serous membrane from disease; 2, the muscular force of the heart, under the influence of which and through the medium of the blood the diseased membrane must yield, be forced onwards, and by compression interrupt the capillary circulation in the muscular tissue, which will become atrophied by interstitial absorption, and thus favour the continual operation of the mechanical cause. While this process is going on, the serous membrane and its accompanying condensed cellular tissue are gradually elongated, and form a smooth though sometimes unequal covering to the sac, the fundus of which is sometimes not larger than the opening by which it communicates with the cavity of the ventricle, at other times much larger, in which case only it has been found to contain coagula or a quantity of fibrine.

Besides the morbid conditions of the internal lining membrane and its sub-cellular tissue which give rise to circumscribed aneurism of the heart, there are others, connected however with these, and having apparently the same origin, and which I have always found to accompany the uniform dilatation of the ventricle in the direction of the affected walls. In the cases in which I have observed this form of dilatation, the opposite surfaces of the pericardium were intimately united by firm cellular tissue, the consequence of a previous attack of pericarditis. The lining membrane of the heart and its sub-cellular tissue presented the same appearances as in circumscribed aneurism; but there was, besides, a greater or less quantity of cellulo-fibrous tissue, occupying the situation of the muscular substance of the ventricle, sometimes throughout the whole thickness of its walls. It is in the situation of this tissue, as I have said, that the dilatation takes place. That this as well as the circumscribed form of dilatation originates in inflammation, appears evident from the circumstances already stated, but more especially from the fact just noticed, viz. adhesions being always found to accompany the latter form. It is, however, important to remark, that the formation of the cellulo-fibrous tissue which takes the place of the muscular tissue of the heart, does not originate in the effusion and organization of coagulable lymph. I have been able distinctly to trace it to the separation of fibrine from blood forced into the substance of the heart, in consequence of softening and rupture of some of its muscular fibres. The gradual transformation of the fibrine into the cellulo-fibrous tissue was very conspicuous."

We are disposed to question the accuracy of Dr. Carswell's position—that dilatation of the heart, whether circumscribed or diffused, originates in chronic inflammation. Whatever Dr. Carswell's opportunities of observation may have been, this must from the nature of the case be an assumption. If Dr. Carswell could prove that partial dilatation of the parietes of the heart is always preceded by a morbid state of the lining membrane, he would have to shew that this is necessarily inflammatory. But he cannot prove the former postulate: his experience will not sanction the attempt. We remember examining the body of a gentleman who died from rupture of an aneurismal pouch of the left ventricle. The hæmorrhage took place into the pericardium. In that instance we could detect no morbid change in the lining membrane of the ventricle. The muscular substance appeared to be absorbed, the walls of the pouch were extremely thin, and under the influence of exertion they had given way. First then, Dr. Carswell cannot possibly assert that all cases of aneurism of the heart result from alterations of its lining membrane; and, secondly, even if he could do that he must still shew that those alterations arise from inflammatory action. This is probably the case when we discover the traces of previous pericarditis, but when, as not unfrequently occurs, we find no such unequivocal evidence of inflammation, the conclusion must be founded on uncertain, if not on inadequate data. The attempt has been made to connect the depositions in the arterial tunics with inflammation. But when we reflect on the period of life at which those deposites usually occur, and on the many changes which all the tissues exhibit in advanced age, we must pause before we can accede to an explanation so sweeping and so exposed to plausable objections.

Dr. Carswell runs over the hypertrophic affections of various parts. The enlargement of the spleen after intermittent fever, would seem to depend on dilatation of the cellulo-vascular structure. The hypertrophy of bone is sometimes great, from inflammation of its own texture or of the periosteum. Hypertrophy of the muscular tissue from irritation is seldom observed, except

in the involuntary muscles. Thus the muscles of the bronchi in chronic bronchitis—of the colon in dysentery—of the bladder and stricture, become excessively enlarged.

Dr. Carswell directs attention to the very important practical fact, that after pericarditis, the heart usually enlarges, and the pericardium becomes adherent to its surface. We call this an important practical fact, because, if there be symptoms of affection of the circulating organs, and any history of previous rheumatism, the practitioner should at once suspect the existence of adherent pericardium and hypertrophic heart, and examine that organ, to see if his suspicion is correct.

Enlargement of glandular organs from irritation, and of the various portions of the nervous system from the same cause, is glanced at by our author. There is nothing in his observations on this head to detain us. He admits that hypertrophy sometimes occurs without any obvious cause. Such is the case with some fatty tumors, unnatural increase of the hair, pendulous flaps of integument, and so forth.

An enumeration of the physical characters of hypertrophy concludes the present fasiculus.

The bulk of the part is of course increased in hypertrophy. But, although the volume of the tissue is augmented, the actual size of the whole organ may not be so. Thus, the parietes of the cardiac ventricle, or of the bladder, may be materially increased, yet the heart and bladder may remain unaltered in their general dimensions. The hypertrophy of the walls is then at the expense of the capacity of the cavity. In other instances there may be hypertrophy of the muscular coat of hollow organs, although the coat is not thicker than natural, nay, even thinner. This is the case when the cavity is much dilated. It is obvious that, in such a case, there must be a greater positive quantity of muscle. Hypertrophy may result from an increase of consistence, and a more compact organization, independently of alterations of volume or capacity. This happens in muscular, cellular, and especially in glandular organs and tissues.

The *weight* of an organ must of course be augmented in hypertrophy. But how are we to determine that the weight is augmented or diminished? What standard of comparison shall we erect? Perhaps, of all organs, the heart is most liable to hypertrophy; and this change in it is of the utmost consequence. Yet we have no generally-admitted standard by which to judge of its enlargement. As Dr. Carswell observes, Laennec considers that the size of the fist may be taken as a standard of comparison for determining the normal dimensions of the heart; Lobstein fixes its weight at nine or ten ounces; Cruveilhier at six or seven ounces; and Bouillaud at eight or nine ounces in persons between twenty-five and sixty years of age, one or two ounces less in persons between sixteen and twenty-five, and in tall and robust persons at ten or eleven ounces.

This discrepancy of opinion respecting the normal weight and dimensions of the heart considered as a whole, appears also in those which have been assigned to the thickness of the walls of its respective cavities. Laennec merely observes that the thickness of the walls of the left ventricle should be a little more than double that of the right. Lobstein gives the following measurements of the normal thickness of the walls of the ventricles and auricles:—right ventricle two lines and a quarter, left ventricle seven lines at

its basis, and four lines a little above the apex; right auricle one line, left half a line. Bouillaud fixes the mean thickness of the right ventricle at two lines and a half, and that of the left at seven lines; of the right auricle at one line, and that of the left half a line.

Increase of consistence is the usual concomitant of hypertrophy. It is sometimes considerable in the cellular tissue, lymphatic glands and brain.

The colour of hypertrophied parts is sometimes heightened, but more commonly diminished. The latter probably arises from compression of the bloodvessels *in* the part.

The form of hytertrophied parts is altered, particularly if the hypertrophy be partial. Dr. Carswell remarks, that some of the most marked changes of this description are observed in hollow organs, and he adduces some varieties of dilatation of the bronchi, which deserve attention.

"In the first variety of form which accompanies dilatation, the bronchi of the second, third, or fourth order, present a fusiform shape, each bronchus gradually increasing in size in the direction of its distribution, until it has acquired very considerable dimensions, varying from a quarter of an inch to an inch in diameter. The second variety which occurs is a very small bronchi, and chiefly in those which pass out from the sides of the large bronchi, presents a pyriform shape, the dilated tube having a narrow pediculated attachment, and a rounded fundus from three to six lines in diameter. In the third variety, which is met with generally in bronchi of the fourth order, the dilatation is globular, the whole circumference of these tubes being equally dilated within a circumscribed extent. Sometimes one, but more frequently several globular dilatations, either contiguous to, or separated from each other by irregular intervals, occupy the same brohchus, and vary from a few lines to nearly two inches in diameter. The last variety occurs in the smallest bronchial tubes, several of which being dilated in a circumscribed portion of lung, small groups of round or ovoid bodies, of the size of a hemp-seed, pea, or cherry, are formed, which, when carefully separated from the surrounding pulmonary tissue, present the appearance of a bunch of grapes. This variety is sometimes complicated with emphysema, the dilated bronchi being filled with a thick mucous or muco-purulent secretion, and the air-cells with air, and when not very considerable, may be confounded with the latter disease. It may also, when situated in the upper lobe of the lung, be confounded with a multilocular tubercular excavation, when lined by a smooth mucous membrane of new formation. The globular variety likewise, when it occupies the same situation, is still more likely to give rise to a similar mistake."

Such are the observations of Dr. Carswell on hypertrophy. They are comprehensive and valuable, and deserve the attention of all who would wish to be at the pathological level of the day. The plates of this fasciculus are as beautiful as usual, no inconsiderable merit. We have already observed, in reference to this work, that the library of an English physician or surgeon that wants it is imperfect in a high degree.

We had intended to have introduced into this article a notice of some other pathological works. But we find that it has occupied too much space to permit us to proceed. In our next, we will complete the review of the elements of Mr. Mayo, and lay before our readers a resume of the latter labours of M. Cruveilhier.

1. Lectures on the Diseases of the Lungs and Heart. By *Thomas Davies*, M.D. Octavo, pp. 512. London, 1835.
2. Traite Clinique des Maladies du Cœur. Par *J. Bouillaud*. 2 Tomes, 8vo. Paris, 1835.

These are the works of two excellent physicians, and most accomplished stethoscopists. The lectures of Dr. Davies have already appeared separately in the Medical Gazette, and they form one of the most valuable contributions which have of late enriched the pages of that periodical. As they are truly and strictly "lectures," addressed to a body of students, and intended merely as a manual of reference, our duty, as reviewers, is necessarily limited to the expressing of our opinion of their general merits. They will be found to contain an exceedingly clear and well digested resumé of information on most of the important topics of thoracic pathology. Each topic is treated succinctly, and with ability, and the practical remarks on the treatment of the various diseases of the heart and lungs are valuable, as coming from a physician who is well known to have devoted much of his time and talents to their minute investigation.

We observe that Dr. Davies reports most favourably of the effects of the antimonial treatment of peripneumonia. He commences with doses of a third of a grain (adding occasionally a few drops of tinct. opii, or syr. papav.) every hour, gradually increasing the quantity by a third of a grain every two hours, until he reaches two grains. It is useful in all the stages of the disease, but especially in the first, that of engorgement. In old and cachectic persons, who cannot bear bleeding well, Dr. D. says "he has found the tartar-emetic, carefully administered, produces frequently the most astonishing curative effects;" and, he adds, "I have frequently left patients, under the impression that their recovery was almost impossible, and yet have found that the continuous use of this medicament has snatched them from the jaws of death.

With respect to the comparative efficacy of mercury and tartar-emetic, he appears to give the preference to the latter, especially in the earlier stages of peripneumonia, and to the former, when the structure of the lungs has become, or is becoming, hepatised; and he concludes his remarks by stating, "that the tartar-emetic seems to act most energetically upon inflammations of the parenchymatous tissues of the organs, and mercury upon those of the serous membranes."

In the treatment of angina pectoris, Dr. Davies praises in high terms the application of a belladonna plaster, of the size of the hand, formed of one part of the extract with four of soap plaster, over the region of the heart.

He records a curious case of patency of the foramen ovale in a youth, eighteen years of age, in whom he had every reason to believe that the lesion was not congenital, but had been caused by a rupture of the septum, brought on by violent exercise at cricket, six years before his decease. Here we must stop our notice of Dr. Davies' lectures.

The treatise of M. Bouillaud lays claim to much higher pretensions. It is evidently the production of a most able and vigorous mind, which is accustomed to think, and reason, and determine for itself. Hence there is much

originality of research and speculation pervading every part, and the novel and striking lights in which the opinions and discoveries of others are placed, add greatly to the interest of the descriptions. Some of this author's conclusions, indeed, are too rapid and premature, and his assertions every now and then, are bold and peremptory; but, withal, the present work is one of high and standard merit, and were we asked to point out a favourable specimen of modern French medical literature, we know of none to which we should with greater confidence appeal than to the clinical treatise of Professor Bouillaud. Besides a copious narrative and general description of every cardiac derangement, it contains faithful records of upwards of 200 cases of disease. It is, therefore, quite a magazine of clinical observations, to which all future writers will, we venture to predict, make frequent reference.

After giving a most ample history of the anatomy of the heart, he proceeds to examine the various theories which have been proposed to account for the double or tic-tac sound, which attends the actions of that organ. He decides in favour of the theory of M. Rouanet, who attributes the first sound to the sudden closing and apposition of the auriculo-ventricular valves, and the second to the closing and apposition of the semilunar valves of the aorta and of the pulmonary artery. M. Bouillaud suggests that the falling back, or "abaissement," of the one or open set of valves, at the time while the other is closing, may possibly contribute to the production of the sounds in question; but he admits that they are mainly owing to the instantaneous closing and succession of the divisions of the valves against each other; of the auriculo-ventricular during the systole, and of the semilunar during the diastole of the ventricles.

Having discussed, at great length, the anatomical and physiological portions of his work, the various morbid conditions of the heart and its investing membrane, from simple inflammatory or nervous affections to congenital malformations, are then amply reviewed and illustrated. The details will be found full of interest and instruction, and had our limits permitted us to enlarge, we should have gladly devoted a long article to their examination. But, at present, we cannot afford the requisite space. We shall, therefore, select only one subject for a few remarks, and that subject will be the inflammation of the internal lining membrane of the cavities of the heart, or endocardium, as our author calls it. This disease, ENDOCARDITIS, has been more minutely investigated by M. Bouillaud than by any other writer. It was he who first gave it a name (which, by the bye, has not been yet recognized by English physicians), and established it as a legitimate member of the nosological code. Most of its effects, or sequelæ, as thickening, vegetations, and ossifications of the valves, contraction of the orifices, hypertrophy of the ventricles, polypi, &c. have been described by most authors as idiopathic diseases. M. B. traces them, in almost every case, to a precursory inflammation, acute or chronic, of the endocardium, and he points out the close analogy which may be traced between inflammation of this membrane and inflammation of the pericardium. Many of their symptoms are alike—the post-mortem appearances are very similar—the inducing causes are the same, and the same treatment is applicable to both. M. B. divides the history of endocarditis into three periods or stages—the period of congestion, softening, suppuration, and ulceration; the period of the

organization of the secreted products, or of a portion of the fibrinous coagula; and the period of cartilaginous, osseous, or calcareous induration of the endocardium in general, and of the valves in particular, with or without contraction of the orifices of the heart.

The anatomical characters of the first period or stage engage our attention first.

An unusual redness of the endocardium is discovered in an immense majority of the cases. The shade of colour varies from a pink to a scarlet, purplish, or even brown hue. The redness may be partial or general; very often it is confined to the surface of the valves, and, when it is more extensively diffused, it is always of a deeper colour on the valvular portions of the endocardium than elsewhere. M. Bouillaud states that this redness is owing, not to any capillary congestion, but rather to a "sanguineous dyeing" of the lining membrane of the heart. [This statement surprises us.] It does not extend beneath this membrane. It is not removable by simple washing; but maceration, continued for some time, will cause it to disappear.

M. B. is well aware that many pathologists regard the redness of the endocardium, of whatever hue it may be, and in all cases, as the result of cadaverous imbibition; and he admits that the appearance is very commonly seen in the corpses of patients who have died of typhus or other diseases, in which the mass of the blood has become unusually fluid, and otherwise changed, more especially if the process of putrefaction has at all commenced when the body is examined. But, when we discover this redness in a body of a patient recently dead, and who during life had laboured under the symptoms of endocarditis (to be hereafter described), there is reason, M. B. thinks, to attribute it to inflammatory action. If the redness be associated with any swelling, puffiness, or thickening of the affected surface; if there be any traces of purulent or pseudo-membranous deposit; if there be any adherent, discoloured, fibro-albuminous coagula; or lastly, if there be co-existent redness of the internal surface of any bloodvessels, which, it was known, had suffered from inflammation, (as in cases of phlebitis,) there is strong reason for believing that the phenomenon, we are now alluding to, is the result of a vital change.

Whenever endocarditis has lasted for some time, the internal membrane of the heart is very generally found somewhat thickened. This appearance is always most conspicuous on and around the valves. The membrane may be, at the same time, more easily lacerable than usual, and also more readily detached from the subjacent cellular texture. Sometimes minute erosions, or incipient ulcerations of the endocardium are visible at different points.

The early vestiges of any purulent or pseudo-membranous deposit on the endocardium are necessarily rendered indistinct, in consequence of the secreting surface being constantly washed by the current of the circulating blood. The pus, when it does exist, is found sometimes in the meshes of the columnæ carneæ, at other times in the centre of adherent coagula. Detached portions, or specks of lymph, are not unfrequently seen on the surface of the valves, or of their tendons, presenting the appearance of rounded granulations or vegetations.

These pathological changes of the endocardium are very generally accompanied with certain changes of the blood itself, within the affected ca-

vities. Coagula, varying in size and number, are found adhering at different points. These coagula are whitish, elastic, glutinous, adherent to the walls of the cardiac cavities, twisted round and entangled with the chordæ tendineæ and columnæ carneæ. They are, in some degree, organized, and may be aptly compared to pseudo-membranous deposits. In some of them we observe minute red spots and lines, which are, in fact, the rudiments of bloodvessels. These coagula, the result of endocarditic disease, are very frequently continued for some way into the large vessels. They are more common, and generally also more voluminous, in the right than in the left cavities. Usually they are most strongly adherent to and around the free edges of the valves. M. Bouillaud is of opinion that the vegetations or granulations of the valves, an appearance of so frequent occurrence, very often originate in the deposition of these small fibrinous masses.

The second period or stage of endocarditis is characterised by the thickening of the inflamed tissue, and by the organization of the lymph or fibrine, which had been secreted during the first stage. Hence the origin of the vegetations, as alluded to above, which are so frequently found on the valves, and on their tendinous cords—of the adhesions of portions of the valves to each other, or to the surface of the ventricles, and of the milky-looking depositions of organized lymph, in patches of greater or less extent, which are often seen on the surface of the cardiac cavities.

The anatomical characters of the third period are the cartilaginous, osseous, or calcareous formations, which are so generally met with in all protracted cases of cardiac disease, affecting the valves, bloodvessels, or substance of the heart itself. The numerous lesions resulting from these changes have been fully illustrated by all the late authors on the diseases of the heart, and by none more completely than by M. Bouillaud in the present treatise. He alludes particularly to the contraction of the valvular orifices, which is induced by the gradual induration and ossification of their structure, and to the subsequent changes in the tissue of the heart itself, and of other distant organs, which are so frequently consequent on the valvular disease. Thus, hypertrophic enlargement of the ventricles is an almost invariable sequence of prolonged endocarditis; and M. Bouillaud is of opinion, that many of the lesions of the pericardium are secondary, and consecutive to those of the endocardium, in consequence of the intimate sympathy between these two analogous membranes. Of thirty-four cases of endocarditis reported, seventeen presented distinct traces of a co-existent pericarditic disease. The distention of the venous system, more especially of the veins of the internal viscera, and the superinduced tendency to watery exhalation into the serous cavities, and into the general cellular substance, are well-known sequelæ of cardiac disease.

M. B. devotes several pages to answering the objections which may be, and, indeed have been urged against his hypothesis, that most, if not all, of the morbid lesions of the valves and other internal parts of the heart's structure are attributable to endocarditic disease. His reasoning, and the facts adduced in support of it, well deserve the study of the physician The following extract from Andral's Clin. Med. tom. 1ier, affords powerful testimony to the correctness of our author's views.

"If the inflammation of the internal membrane of the heart passes into the chronic state, the membrane becomes gradually more and more thickened, and

especially where it is doubled upon itself to form the different valves. Not only is this membrane thickened, but it also becomes the seat of vegetations, and of other kinds of degeneration. The fibrous tissue likewise, which is invested by the membrane, is usually indurated; and at these parts, as well as at every other, where it is affected with inflammation, this tissue shews a tendency to a cartilaginous or bony change. The effect of all these various alterations is to narrow the orifices of the heart, to obstruct the free play of the valves, and, consequently, to distress the course of the blood. Thus, then, a great number of the contractions of the different cardiac orifices, induced either by vegetations on the surface of the investing membrane, or by cartilaginous or osseous concretions situated under it, are attributable primarily to acute or chronic endocarditis, as their 'point de depart.'"

So much for the morbid anatomy of endocarditis. We shall now briefly detail the symptoms which indicate the disease during life.

It must be acknowledged that, in a large number of cases, the symptoms are very indistinct and unsatisfactory. There is usually more or less of pain in the region of the heart, and this is accompanied with a sense of distressing oppression, anxiety, tendency to leipothymia, and with general malaise of the system. The pulsations of the heart are stronger and more diffused than in health, and they are apt to be tumultuous: at times they are attended with a most distinct vibratory tremor of the thoracic parieties. A bruit de soufflet, more or less loud, may almost always be detected; and, when the action of the heart is violent, each period of the ventricular systole is accompanied with a "tintement mètallique." The pulse at the wrist is usually rapid, irregular, and unequal. The general system very generally sympathises with the cardiac disease, and pyrexia, more or less distinctly marked, is present during the early stages of endocarditis. When the disease has continued for a length of time, and especially when the valves are much affected, or when there are considerable coagula within any of the cavities, the venous circulation exhibits various signs of embarrassment. The same may be said of the effects of endocarditis on respiration.

M. B. acknowledges that the symptoms which he has enumerated as indicative of endocarditis, during its earlier stages at least, are by no means pathognomonic of that disease, and that they appertain almost as constantly to pericarditis. Fortunately, no practical evil can flow from this obscurity; and, moreover, it is to be remembered, that the outer and inner investing membranes of the heart very generally suffer together in disease. When the organic lesions of the valves and other parts of the heart's structure become more decided and serious, the symptoms are usually sufficiently expressive of the mischief that is going on.

With respect to the etiology of endocarditis, M. Bouillaud states, that an extensive experience has now convinced him that, (as is the case with pericarditis,) rheumatic, or, as it ought to be called, arthritic inflammation is by far the most frequent cause of the disease. He strongly urges on the attention of his readers the reflection, that it does not require any metastasis of the articular disease to the heart to excite mischief there; but that, very often, the cardiac inflammation is developed at the very commencement of the attack, and is co-existent with the affection of the joints, during its entire progress. The infinite importance, therefore, of counteracting and arresting arthritic inflammation, wherever it may exist, and however partial and trifling it may seem, must be abundantly obvious. M. Bouillaud, more

than any other author, has the merit of having illustrated the practical position, that a most intimate relationship exists between the inflammatory affections of the synovial and other apparatus of joints, and those of the outer and inner investing membranes of the heart.

M. Bouillaud appends some excellent remarks on the appropriate treatment of endocarditis, and of the various organic lesions which it so often induces. Small and repeated bleedings, especially from the cardiac region, either by means of cupping, or of leeches, the frequent application of blisters, the internal and external use of digitalis, the employment of colchicum, hydriodate of potass, and of other saline diuretics, along with absolute repose and restriction to a very mild unirritating diet; these are the means from which the patient will derive the greatest benefit.

ON THE WISDOM AND GOODNESS OF GOD, AS MANIFESTED IN THE CREATION, HABITS, AND INSTINCTS OF ANIMALS. By the Rev. Mr. *Kirby*.

[Third and concluding notice.]

IN our second article on this interesting but very unequal publication, we carried forward our analysis to the 22d Chapter of the second volume, where the author takes up the "functions and instincts of reptiles."

Although reptiles, in general, have been held in a kind of abhorrence by mankind—especially by the Jews, Mahomedans, and Christians—partly, perhaps, from the evil part which the serpent played in the Garden of Eden —partly from their sinister appearance and poisonous qualities—yet one order of them (the Chelonians) has found favour in the sight of Turk and Infidel—of Jew and Jesuit—of Whig, Tory, and Radical—the TURTLE tribe. In Scripture the SERPENT, under the names of dragon and leviathan, together with *frogs*, are employed as symbols of the evil spirit—of tyrants—and of false prophets. These animals are endued with extraordinary tenacity of life—being capable of enduring dismemberments and privations that would expel the vital principle from any other class of animals! The reason is, that the brain may be said to be diffused through the whole of their nervous system. Take out the heart or the brain proper, and still they will move. They are said to be able to live without food for months, or even years. Their lives, in some instances, however, are scarcely raised above the level of death. Many of them dwell in dark, damp, and airless caverns —or, as the toad, exist almost without vitality in blocks of marble or the trunks of trees! Facts, however, may probably be, in many instances, fictions. Naturalists have had some difficulty in settling the arrangement of this class of animated beings.

"That Reptiles, in the larger sense of the term, form a *natural* Group, will be generally admitted, when it is considered that the *salamanders*, or naked efts, evidently connect the Batrachians with the Saurians, and were formerly considered as a kind of *lizard;* it seems to me therefore, more consistent with nature to consider the Reptiles as forming a *single* Class." 412.

The characteristics are—*Animal*, vertebrated—oviparous or oviviparous—eggs hatched without incubation. *Heart*, biauriculate—*Blood*, red, partially oxigenated, cold. *Brain*, very small—*vitality*, in some degree, independent of it. *Integument*, various. We must pass over the sub-classes and orders. The great body of reptiles are predaceous—subsisting on small animals, especially insects—some of them, however, on large animals. The chelonians live principally on marine vegetables—the iguana devours fruit, grain, and leaves.

The first order—the siren, or mud-iguana, seems to connect with the apod and cyclostomous fishes, from which it is distinguished by its gills in three tufts, and by having only one pair of legs. It is said to be useful to man—especially in South Carolina, where it devours earth-worms, &c. that are noxious to rice.

One of the most remarkable of the order is the PROTEUS, first found thrown up by subterranean waters in Carniola. It is about a foot long, and an inch in thickness, the body being cylindrical, and tapering to the tail, the colour being a pale red. Its skin is transparent and slimy. It has four short legs, with toes, and no claws. The whole structure is curious, and our author, not without some zest for the wonderful, seems to bring this newly-arrived stranger forward as a proof, or probability that, "*the waters under the earth*" may have their peculiar population.

"Before quitting this subject, I may observe that Baron Humboldt has given an account of a wonderful eruption of *subterranean fishes*, which sometimes takes place from the volcanos of the kingdom of Quito. These fishes are ejected in the intervals of the igneous eruptions, in such quantities as to occasion putrid fevers by the miasmata they produce: they sometimes issued from the crater of the volcano, and sometimes from lateral clefts, but constantly at the elevation of between two and three thousand toises above the level of the sea." 421.

In a few hours, millions are seen to descend from Cotopaxi, with great quantities of cold and fresh water. Rusconi has described a salamander that lays her eggs singly on the leaves of the *persicaria*, (as mentioned in our former article) which are kept folded by means of the glue that envelopes them. The developement of the embryo, and the successive additions of organs are very curious.

"It is at first opaque, formed of a soft homogeneous substance. Almost as soon as it has escaped from its envelope, it becomes gradually transparent, so that the successive developements, both of its internal and external organs, may be discerned—the heart, and its systole and diastole; the stomach, its form and position; the intestinal canal, which at first extends in a straight line, from one end of the abdomen to the other, and then begins to undulate, and ends by forming many convolutions: next may be seen the liver, the developement of which keeps pace with that of the stomach and intestines; and lastly appear the lungs, taking their place and form, always filled with air, and so transparent that one might believe the animal has on each side of the trunk a bubble of air gradually dilating and lengthening. When all these organs have acquired the necessary developement, the spectator beholds in the little creature the beginning, as it were, of its animal life. Its former life being merely organic, resembling that of a vegetable, but now its motions are become the result of its sensations and will." 423.

Mr. K. has adverted to the ancient opinions respecting the wonderful powers of the salamander in resisting fire—wonders which are not without

some foundation in truth. Latreille and others have ascertained that this animal can cause a copious transudation from its surface of a kind of acrid milk of nauseous scent, which poisons small animals. When thrown into the fire this exudation may sometimes be capable of extinguishing it, or of enabling the creature to escape without much injury. The following anecdote is related by our author on the authority of three ladies whose accuracy is vouched for by Mr. K.

"They were residing at Newbury, where their cellars were frequented by frogs, and a kind of newt, or salamander, of a dull black colour. Several of the frogs were caught one day, and put into a pail; and while the ladies were looking at them they were surprised by observing the frogs one after another turn themselves on their backs, and lie with their legs extended quite stiff and dead. Upon examining the pail they found one of these efts, as they called them, running round very quickly amongst the frogs, each of which, when touched by it, died instantaneously, in the manner above stated. They afterwards regarded these efts, as may be supposed, with nearly as much horror as they would a rattlesnake; and a few nights afterwards, finding one in the kitchen, it was seized with the tongs, and thrown into a good fire which was burning in the grate. The reptile, instead of perishing, slipped like lightning through the coals, and ran away under the fireplace apparently unhurt. The house, in which these animals were found, was in a remarkably damp situation." 424.

If the salamanders of northern climates have powers of this kind, it is possible that those of warmer skies may have more of the fire-quenching properties of the Greek and Roman historians and poets than modern herpetologists are willing to admit.

This tribe of animals has the faculty of reproducing amputated limbs, and even eyes that are plucked out, in a few months. These faculties are not much less wonderful than the fabled resistance to fire. Passing over lizards, frogs, and toads, whose natural history is too familiar to need notice in this place, we come to the THIRD ORDER.

The general functions of the OPHIDIANS seem connected with almost the whole animal kingdom. They prey on insects, frogs, birds, beasts, (both ruminant and carnivorous,) and act the same part with land animals, that eels and some other fishes do with respect to those of the water. Some are analogues of the lion and tiger—as the oriental python and the occidental boa, which sometimes exceed thirty feet in length, and are the size of a man's body. There is one peculiarity noticeable. The predaceous quadrupeds, with the exception of the hyena, leave the skeleton of their victims untouched: the OPHIDIANS swallow the entire animal, and thus remove it completely from the face of Nature. The others, where they abound unmolested, make their domain like a charnel-house, and deform the earth with the ghastly relics of their voracity.

The mouths of these animals are so curiously constructed, that they can dilate them to an enormous size, and thus swallow victims bigger than their own bodies. The vertebræ of the great boa are more numerous than those of other serpents, and this enables them to surround and strangle their prey in their dreadful voluminous folds, and render it fit for deglutition by their lubricating saliva.

In the fourth order, which is divided into numerous genera, the chamelion is the most remarkable and celebrated. The ancients thought it could live upon air, because it has the power of swelling itself to twice its natural

size, when it becomes transparent. Cuvier is of opinion that it is the size of the lungs of these creatures which enables them to change their colour, and thus to express their wants and passions, rather than to assume the hue of surrounding bodies.

"The Rev. L. Guilding, however, mentions another genus, the species of which, when in search of prey, adapt their colour to the green tree or dark brown rock on which they lie in ambush. As these animals have the power of inflation, at least partially, by assuming a degree of transparency, they may appear of the colour of the substance they are standing upon, a remark which may also apply to the chameleon. The object of this may be to conceal themselves from their enemies, as well as from their prey." 430.

The crocodile is only alluded to, to settle the long-disputed question as to the motion of the jaws. This formidable creature can move *both* of them —the head, however, moving with the upper one. The turtle needs no description or remark. The animals of this class (the chelonians), with the exception of the GUANA are destitute of teeth. They, therefore, must masticate their food in the stomach. The predaceous tribes have teeth for lacerating their prey, but not for grinding it.

Chap. XXIII.—Functions and Instincts of Birds.

We are now arrived at the highest department of the animal kingdom, as distinguished by a vertebral column, warm red blood, and ample brain. Here we have two great classes—the oviparous and viviparous. In the *first* are birds—in the *second*, quadrupeds, whales, and seals, and called, from suckling their young—MAMMALIANS.

"MAN, though *physically* belonging to the latter Class, *metaphysically* considered, is placed far above the whole animal kingdom, by being made *in the image and after the likeness* of his Creator, receiving from him *immediately* a reasonable and immortal soul; and entrusted by him with *dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.*" 436.

Thus our inquiries are nipped in the bud, as usual, by a quotation from Scripture. If the eagle, the elephant, the alligator, the lion, &c. were told that there was a direct dominion over them given to man, they would demur, and most likely say—we acknowledge no such dominion. In single combat we fear you not—though, by fraud, stratagem, and combination, you contrive to entrap a few of us, though we often make reprisals upon you and yours. But the true and reasonable statement of the case is this. God has endowed man with faculties superior to those given to other animals, and, by means of these faculties, he manages to levy contributions on a great many creatures in the animal kingdom. In the GARDEN of EDEN, a direct dominion may have been given to Adam over his peaceable subjects; but, after the fall, man was clearly indebted to his wits, and could command no obedience but by force or fraud.

Our author seems to think that the *music* of birds is one of their endowments, which ministers more to the "pleasure and delight" of man than any other quality. We apprehend that their flesh and feathers would turn the balance on this point. Nor is it to be forgotten, that all birds are not

nightingales. The goose and the duck, the two birds with which we are most familiar—and also the hen, are any thing but melodious in their music! We shall, therefore, pass over the vocal apparatus of this class, though Dr. Latham and Mr. Yarrell have delineated some very curious figures of these instruments of melody and discord.

One of the most remarkable peculiarities of this class, is their permeability by air. Their whole organization is filled with air, as the sponge is with water. Their lungs, their bones, their cellular tissue, their feathers —in fine, almost every individual part, admit air into their interstices, giving them a specific *levity* superior to that of any other animal. Their powerful muscles and expanded wings, however, do not allow them to become the sport of every wind.

On the first order—the web-footed birds, our author makes some ingenious reflections. They furnish man with food, and downy pillows to rest his head. One of the most remarkable individuals of this order is the PENGUIN, of southern latitudes. Its wings are destitute of feathers, and serve, when under water, as fins or paddles. They are very stupid—and, indeed, most of the web-footed birds exhibit less of that life and spirit which distinguish this class of animated beings. They may be regarded, in some sense, as half fowl and half fish.

"But all sea-birds are not of this character; amongst these the *frigate-bird* and the *albatross* are most conspicuous, emulating the eagle and the vulture amongst the terrestrial birds of prey. Of all the oceanic birds, the frigate-bird comes nearest to the *eagle*. Its keen sight, its crooked beak, its short, robust, and plumy legs, its sharp claws, the vast extent of its wings, and its rapid flight, all show that it is the oceanic representative of the king of birds. If the peaceful flying-fish seeks a refuge from the dorados and bonetos, its aquatic enemies, by elevating itself from the water into the air, the frigate-bird darts upon it like a thunder-bolt, and devours it. If the booby has caught a fish, like the bald eagle the frigate-bird often compels it to let go its prey, and seizes it before it reaches the water. Its extent of flight is wonderful, and exceeds that of any other marine bird; for it possesses between the tropics a domain of more than four hundred leagues, over which it directs its course by day and by night; for, as the plumage of the under side of its body is not impervious to the water, it cannot continue long upon it, but prefers to brave the wind and the tempest, and to elevate itself above the storm, and for repose retires to lofty rocks and woody islets." 453.

The albatross is the analogue of the vulture, its wings sometimes extending 20 feet. He is a voracious animal, and occasionally becomes so gorged with food, that he is unable to fly.

In the 2d order (waders), our author notices one or two curious individuals—the kanrichi and the psophia crepitans. The former is larger than the peacock—its wings armed with two strong spurs—and its forehead with a long straight horn. With these formidable weapons, it is one of the most harmless and peaceable of birds. It feeds on grass, and injures none of its fellow-creatures,

Another South-American bird, is still more remarkable, and gifted with an instinct still more wonderful. It has a natural inclination for the society of man—occupying the place among birds that the dog does among quadrupeds. It becomes attached to the inmates of the house where it is fed—knows the voice of its master—attacks his enemies with great courage—and,

according to Sonnini, is entrusted with the care of the young poultry, and even of flocks of sheep. But we must leave this interesting class of animated beings, as our limits are drawing to a close.

The chapter on mammalians is very short, and contains little that is not familiar to every person of common education. The following extract is curious. Speaking of the *rat-hare*, or haymaker, called by the Tungusians the PIKA, our author quotes from Pallas to the following purport.

"These animals make their abode between the rocks, and during the summer employ themselves in making hay for a winter store. Inhabiting the most northern districts of the old world, the chain of Altaic Mountains, extending from Siberia to the confines of Asia and Kamtschatka,* they never appear in the plains, or in places exposed to observation; but always select the rudest and most elevated spots, and often the centre of the most gloomy, and at the same time humid forests, where the herbage is fresh and abundant. They generally hollow out their burrows between the stones and in the clefts of the rocks, and sometimes in the holes of trees. Sometimes they live in solitude and sometimes in small societies, according to the nature of the mountains they inhabit.

About the middle of the month of August, these little animals collect with admirable precaution their winter's provender, which is formed of select herbs, which they bring near their habitation and spread out to dry like hay. In September, they form heaps or stacks of the fodder they have collected under the rocks or in other places sheltered from the rain or snow. Where many of them have laboured together, their stacks are sometimes as high as a man, and more than eight feet in diameter. A subterranean gallery leads from the burrow, below the mass of hay, so that neither frost nor snow can interrupt their communication with it. Pallas had the patience to examine their provision of hay piece by piece, and found it to consist chiefly of the choicest grasses, and the sweetest herbs, all cut when most vigorous, and dried so slowly as to form a green and succulent fodder; he found in it scarcely any ears, or blossoms, or hard and woody stems, but some mixture of bitter herbs, probably useful to render the rest more wholesome. These stacks of excellent forage are sought out by the sable-hunter sto feed their harassed horses, and the (Jakutes) natives of that part of Siberia, pilfer them, if I may so call it, for the subsistence of their cattle. Instead of imitating the foresight and industry of the Pika, they rob it of its means of support, and so devote the animals that set them so good an example to famine and death. How much better would it be, if, instead of robbing and starving these interesting animals, they learned from them to provide in the proper season a supply of hay for the winter provender of their horses." 509.

MAN.

On the functions and instincts of the highest link in the chain of created beings—MAN himself, Mr. Kirby bestows ten short pages! He is acknowledged to be justly placed by Baron Cuvier in a separate order, and termed *bimane*, "indicating that his two hands are the instruments by which he subdues and governs the planet that he inhabits—by which, also, he is enabled to embody his conceptions, and, as it were, to convert his thoughts into material subsistences." But, with submission, we would observe that

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* "Mr. Daines Barrington presented to the Royal Society an animal resembling the Pika, found in Scotland, but probably a different species."

the same hands, accorded to any other animal, would not have placed that animal in the situation of MAN, without the HEAD. So far, we think Cuvier's definition, or rather character of MAN, though approved by Mr. Kirby, is defective. This, indeed, is acknowledged by our author himself, immediately afterwards.

"When I say that Man stands at the *head* of the creation, I do not mean to affirm that he combines in himself every physical attribute in perfection that is found in all the animals below him: for it is manifest to every one, that many of them far exceed him in the perfection of many of their organs, and in their qualities of various kinds. For *sight*, he cannot compete with the *eagle*; for *scent*, with the *hound*, or the *shark*; for *swiftness*, with the *roebuck*; for strength and bulk with the *elephant*: but it is in his *mind* that his superiority lies. There is in him a SPIRIT, an immaterial substance, which constitutes him the sole representative, here on earth, of the SPIRIT OF SPIRITS. He is the only member of the Animal Kingdom that partakes both of a heavenly and of an earthly nature—that belongs both to a material and an immaterial world: and on this account it was that God, when he had created man, constituted him king over the whole sphere of animals with which he had peopled this globe that we inhabit. When his unhappy *fall* took place, the Divine Image was impaired, and consequently the dominion over those creatures, which formed a part of it, was proportionably weakened, and reduced to its present standard." 521.

Here then, our former observation is confirmed by the reverend author's own words. The following passage is ingenious—but, perhaps, it is more specious than solid.

"If we consider the predaceous animals, we shall find in them a greater tendency to multiply than in those that content themselves with grazing the herbage; they generally produce more young at a birth; and their period of gestation is often shorter, so as to admit of more than one litter in the year; so that, unless some means were used to reduce their numbers within a certain limit, the whole race of herbivorous animals must perish. Hence arose the first kind of *war*. Man armed himself to destroy such of his subjects as had rejected his dominion, and even contended with him for the possession of the earth, and to have license to devour at will its more peaceful inhabitants. A similar cause generated the other and more fearful kind of war, of man with man. *Whence come wars and fightings amongst you*, saith the Apostle; *come they not hence, even of your lusts that war in your members?*" 522.

We shall not here question the philosophy of the foregoing passage; but merely say—*valeat quantum valere debet*. We shall part from our amiable and intelligent author, with sentiments of the highest respect for his religious, moral, and philanthropic opinions. If we have sometimes differed from him on some particular points, it was not from feelings of irreverence, as a contemptible and anonymous communicant in a contemporary journal has insinuated, but because we claim the liberty of fair discussion, and because we are conscious that the strictures we have occasionally offered were not calculated to injure, but to promote religion and piety. We shall conclude our review of the work with a quotation from the last page in it.

"In this enumeration and history of the principal tribes of the Animal Kingdom, we have traced in every page the footsteps of infinite Wisdom, Power, and Goodness. In our ascent from the most minute and least animated parts of that Kingdom to man himself, we have seen in every department that nothing was left to chance, or the rule of circumstances, but every thing was adapted by its structure and organization for the situation in which it was to be placed, and

the functions it was to discharge; that though every being, or group of beings, had separate interests, and wants, all were made to subserve to a common purpose, and to promote a common object; and that though there was a general and unceasing conflict between the members of this sphere of beings, introducing apparently death and destruction into every part of it, yet that by this great mass of seeming evil pervading the whole circuit of the animal creation, the renewed health and vigour of the entire system was maintained. A part suffers for the benefit and salvation of the whole; so that the doctrine of the sufferings of one creature, by the will of God, being necessary to promote the welfare of another, is irrefragably established by every thing we see in nature; and further, that there is an unseen hand directing all to accomplish this great object, and taking care that the destruction shall in no case exceed the necessity." 526.

ON THE MANAGEMENT OF FRACTURES OF THE EXTREMITIES.

I. Observations on Fractures. By *John Houston*, M. D. &c. &c. &c.*

II. On the Treatment of Fractures without Splints.

This is, in sober sadness, a most revolutionary age. Every thing is to be pulled down—nothing is to be built up. As Mr. Reeve says, when he deplores the diminution of executions at the Old Bailey, we are losing all our amusements. Surely it is bad enough to attack the institutions of the country—to undermine the colleges—to sap the hospitals—all this is bad enough, without attempting to destroy our fracture-boxes. But so it is. Surgeons have been groping for centuries in the dark in their management of fractures. They have supposed, silly people, that the ends of fractured bones are apt to ride, when in fact they themselves were riding their hobbies. All the pother about muscular contraction has been a brutum fulmen—a phantom of the imagination. Muscular contraction is the most obliging thing one can imagine—you ask it politely to be quiet, and it is so. Such are the new lights. They are brilliant in their way, but before we say any more about them, we will just hear what one of the old school has to say. Mr. Houston has not discovered that splints are useless, and accordingly we shall introduce him first, and listen to his funeral *éloge* of these departing instruments.

The object of Dr. Houston's paper may be briefly stated in his own words. "There are," he says, "in this country, two very opposite courses followed in the treatment of fractures of the lower extremities; one, which consists in laying the broken limb, during the first few days after the accident, in a flexed position, and, subsequently, either preserving the same posture all through the cure, or, after a given period, changing the bent condition of the limb for the straight posture: the other, that of placing the limb at once

* Dublin Journal, Jan. 1836.

in the extended position, and applying, from the onset, an apparatus destined to keep it, all through the period of healing, immoveably in that state." In order to point out the fractures of the leg adapted for the straight, and those calculated for the flexed position, Dr. Houston relates a series of cases, and appends to them the inferences he has been induced to draw from them. The cases detailed are fourteen in number. Of these eight are instances of fracture of the leg—three of fracture of the femur—two of fracture of the humerus just above the elbow-joint—and one of many fractures in succession The majority of these cases present no features to arrest our attention We shall merely notice the three following, each of which displayed some peculiarity.

CASE 1. *Fracture of the Thigh—Non-union—Delirium Tremens.*

M'Auley, ætat. 45, addicted to frequent excesses in drinking, was admitted into hospital on the 22nd of April, 1834, with a fracture of the middle of the left thigh, the consequence of a fall. The limb was placed on a double-inclined plane of the most approved construction, and the utmost pains were taken to preserve it in a proper and steady position. There was considerable swelling and painful starting of the limb for several days. These symptoms, however, all subsided, but the patient remained restless and uneasy, and was much dissatisfied with his position. At the expiration of a month there was no sign of union, and even six weeks elapsed without any apparent advance being made towards a consolidation of the fragments, although the man did not exhibit any indications of derangement in his general health.

The limb was now placed in the extended position; strong adhesive plaster was applied round the broken part, and some blue-pill administered. A fortnight more elapsed, and still the broken pieces admitted of motion on each other. At this period a new and unexpected affection showed itself, namely, delirium tremens, in a paroxysm of which the man pulled off the splints, and leaped out of bed. In the effort at standing the limb yielded to the weight of the body, and was a second time completely bent at the fractured part. Having recovered from the delirium, the patient was removed to his own residence for change of air, and there, when he began to hobble about on stilts, having the thigh well braced with plaster and bandage, the union of the fracture was after a few months accomplished.

Dr. Houston offers the following remarks on the preceding case. We present them, because we intend to join issue with the Doctor.

"The failure in the process of union was not, here, for want of a proper apposition in the fragments of the bones, for the natural length and shape of the limb was not deranged; I conceive it to have been the result of the preference given in this case to the plan of treatment by the double-inclined plane, over that wherein the extended posture and straight splints are had recourse to. The grounds on which this opinion is founded are stated at a subsequent page.

The supervention of that affection, marked by all the symptoms which characterize the delirium of drunkards, and relieved by the treatment appropriate thereto, at so late a period as eight weeks from the time at which the man had totally given up the use of ardent liquors, and during all which he had never manifested any longing for indulgence in his favourite beverage, is, I believe, an unusual occurrence; and, that the affection under which this man laboured was none other than that just stated, may be gathered from the fact that he had pre-

viously had more than one attack of a similar nature, brought on by excesses in the use of ardent spirits. It is certain, however, that while in the hospital he had no opportunity of being supplied with such potations." 474.

We shall soon have occasion to find that Dr. Houston is a warm advocate for the plan of extension in fractures of the lower limbs. He is therefore not unlikely to exert some vigilance in the discovery of defects in the opposite method—we mean, in that of flexion. Such vigilance appears to us to be exhibited with more ingenuity than strict fairness in this instance. We cannot agree with him that the non-union may probably be laid to the account of the double-inclined plane. The method is constantly employed without being followed by any such results. In the apparatus of Mr. Amesbury, an apparatus of great use in cases of non-union, the principle of the double-inclined plane is adopted. We are ourselves strong advocates for extension, and for the use of the splint of Desault, and therefore our defence of the double-inclined plane is perfectly disinterested. To "give a dog a bad name," is too often the practice, and although Dr. Houston is unconsciously unjust, still we do think that he is unjust towards the unfortunate apparatus we are speaking of.

We believe that the cause of non-union in this case was quite independent of local management. The patient was accustomed to large quantities of stimulus. Dr. Houston is at pains to inform us, that in the hospital that stimulus was withheld. The constitution was called on to do hard work in the reparation of the fracture—and it failed. This is no hypothetical view, but founded on facts which have come under our observation.

A man was under our care, as house-surgeon of St. George's hospital, on account of simple fracture of both bones of one leg. We laid the limb upon the side, on a splint, and made pressure by means of another side-splint and bandages. At the end of six weeks, we found, to our surprise, that the union was so soft, as to allow of flexion of the bones at the seat of fracture. We now inquired with more minuteness into the habits of the patient, and we found that he had been accustomed to drink several pots of porter daily. We had previously allowed him the ordinary diet of the hospital, and a pint of porter at his dinner. We now gave him three pints during the day, and put up the limb again as before. Ossific union rapidly ensued, and the patient was discharged in two or three weeks more.

Another man was under our care with compound fracture of both bones of one leg. Some time had elapsed, but there was no appearance of union. We learnt that the man, who was a "waterman"* at a hackney-coach-stand, was in the habit of drinking enormous quantities of gin. His favourite beverage was liberally prescribed, and the improvement was instantaneous.

A woman was received into the hospital with simple fracture of one leg. Violent spasms of the leg ensued. To relieve these, the house-surgeon, under whose charge she was placed, bled her freely. She had previously been accustomed to a full diet and to porter, and the consequence of the depletion was much debility. The fracture did not unite, and although various means, among others the seton, and cutting down upon the fractured

* These people, we presume, are called "watermen" ut lucus à non lucendo, because they drink no water.

ends of bone, have been employed, the fracture continues ununited by osseous matter.

We think that these cases, and other illustrations of the fact might be adduced, will render it probable that the want of union, in Dr. Houston's patient, was principally owing to the abstraction of his accustomed stimulus. That view of the case is strengthened by the occurrence of delirium tremens. We are much astonished at the remarks of Dr. Houston on this subject. He appears to dwell on the singularity of the supervention of delirium tremens, at a time when the patient was *not* indulging in the use of ardent spirits. This is commonly the case. The immediate cause of delirium tremens is most generally the sudden deprivation of the stimulus to which the individual had been previously habituated. Now and then, delirium tremens occurs while the person is committing excesses in drinking, but most usually, we repeat, it is after a cessation, a sudden cessation, of habitual indulgence, and not actually during the indulgence, that this peculiar affection is observed. This is so notoriously true of the form of delirium tremens that succeeds to injuries, that, in the London hospitals, we always inquire into the habits of the patients, and make a point of giving them, at the very earliest opportunity, the stimulating beverage to which they are accustomed. We should say that this is one of the great practical improvements of the day, and we would recommend Dr. Houston to look more carefully into the subject than he would appear to have hitherto done.

The next case is of a very different character—it is an instance of a great liability to fracture on the part of a child.

CASE 2. Patrick O'Hara, ætat. 5, an extremely handsome, chubby boy, and born of healthy parents of large stature, was brought into hospital on the 14th of January, 1834, with fracture of the left tibia, produced by a fall, in running to escape from a dog which frightened him. His mother stated that the opposite leg had been broken in the same place, and from an equally trifling cause, about nine months before, an examination proved the truth of her statement, for, not only had it been broken, but bore evidence of a bad job in the reparation. The recent fracture became united, and the patient was dismissed from hospital by the end of the third week.

On the 26th of November, in the same year, he was brought back by his mother, in equally apparent good health, with a fracture of the middle of the right thigh bone, caused by a fall of the same simple description as in the former instance. From this accident he recovered as expeditiously and as completely as from that of the tibia, and went home well. On the 13th of August in the following year, he was again taken to the hospital, with fracture of the right femur. From this he recovered well, and is at present healthy and strong. The bones are all straight—the joints well knit—and there is no apparent disease in the osseous system. It seems clear that the bones are more than usually brittle, and that is all that can be said.

The third and last case to which we shall direct attention, is one of fracture of the femur, immediately beneath the lesser trochanter.

CASE 3. Ellen Kenny, æt. 13, was admitted June 17th, 1835, with fracture of the right thigh, just below the trochanter minor. It had happened two days before her admission, and the limb had been suffered to continue

flexed in the interim. The superior portion of the bone was drawn upwards —the limb was greatly swollen and vesicated—and severe spasms were experienced. It was not deemed prudent to do any thing more than apply refrigerating lotions for the next three days, and, during this time, the spasms continued. On the sixth day after the occurrence of the accident, extension of the limb was made, and the limb then maintained extended by means of Dessault's splint on the outside, with a corresponding long splint on the inside, and a short splint in front, to compress the projecting upper portion of the femur. The operation of extension was painful, but the subsequent relief was great. The case did extremely well; and, on the 20th of August, the patient walked out of the hospital, without any appreciable difference in length, &c. between the two lower limbs.

We have introduced this case for the purpose of remarking that, although Dessault's splint answers admirably in cases of fracture of the thigh below its upper third, yet it does not generally succeed so perfectly, when the fracture is immediately below the trochanter. The reason is obvious to all who are familiar with the application of the splint. The counter-extension of the limb is effected by means of a bandage, passing from the notched summit of the splint, on the outside of the hip, to the commissure of the thigh and perineum. The effect of this is necessarily to pull the upper portion of the fractured thigh outwards, and this cannot well be prevented by any splint on the inside of the limb, because the latter splint cannot go higher than the perineum. If the fracture of the thigh is much below the level of the summit of the inner splint, the counter-extending bandage cannot force the fractured portions outwards, because the lateral compression of the two splints is sufficient to prevent it. In the case before us, the splint of Dessault *did* answer, notwithstanding the fracture was situated higher in the limb.

Let us now hear what Dr. Houston has to say on the management of fractures. The first point to which he adverts, is the occurrence of spasmodic contraction of the muscles.

"The time of accession of this distressing symptom is liable to some variety, but generally it appears in a few hours. It is most severely felt when the patient is falling asleep, causing him to start in a fright, deranging the broken fragments, and producing great pain. The least movement of the bed, or even the step of a by-stander on the floor, will often be productive of the same effect. The period of the duration of the spasms is not in all cases the same; they usually cease about the sixth or seventh day, but sometimes go on for a greater length of time. A case has been communicated to me by Mr. Cusack, in which they were extremely severe, and terminated on the sixth day, in the production of general tetanus, of which the patient lost his life. Spasms are usually most severe when the inflammatory action runs high; and this latter is no doubt aggravated by their presence.

The occurrence of spasms in a fractured limb would appear to be independent of any injury which the soft parts may have sustained from the accident. The largest flesh-wounds are exempt from spasms; whilst the simplest forms of complete fractures, those freest from lesion of the surrounding soft textures, are as liable as any others to be attended by this symptom. A spasmodic condition of all the muscles of a limb sometimes, it is true, follows a trifling wound of the flesh, uncomplicated with fracture of the bone, but this is a peculiar disease, not admitting of a comparison with that irregular spasmodic action usually at-

tendant on fractures of the long bones of the extremities, nor relievable by the same means." 478.

Dr. Houston proceeds to discuss, at some length, the cause of spasms after fractures. Allowing something for the irritation of spicula, he argues that the principal agent in their production is the shortening of the limb, and the consequent loss of the fixed points of attachment of the voluntary muscles. He illustrates this opinion in a variety of ways. Perhaps one of the most striking analogical instances is that of the stump after amputation. The spasms that are well known to occur under these circumstances cannot be occasioned by the irritation of spicula of bone. This is true, no doubt; yet those muscles have been cut, and, if not irritated by bone, have been irritated by the knife. Probably Dr. Houston is correct, in attributing the production of the spasms principally to the shortening of the limb. Yet there have been a sufficient number of dissections to warrant us in believing that spicula of bone do occasionally give rise to spasms, and those of a very severe description. Did we trust our own observation, we should say that spasms, after fractures, are less common than the cases and remarks of Dr. Houston might lead an inexperienced surgeon to believe. At St. George's Hospital, we have seen only two or three cases of this kind within the last twelve years. At that hospital, fractures are usually "put up" at once, and the treatment by extension is most frequently, though by no means universally, adopted. If there is any irritability about the patient or the limb, a full dose of opium is generally given at once.

An acquaintance with the views of Dr. Houston, on the cause of spasmodic contractions of the muscles of the broken limb, would lead us to anticipate the following mode of treatment.

"With these facts so fully established, namely, that no degree of injury, unless accompanied by a fracture of a bone, is followed by spasms of the muscles, of the kind here alluded to—that no fractures of the bones in the body, except those of the extremities, give rise to those spasms—and that, even in the case of the extremities, if the broken fragments be naturally so circumstanced as not to admit of derangement from the action of muscles, there will be a complete exemption from unnatural spasmodic action, an obvious practical conclusion suggests itself, namely, that by imitating artificially the condition adverse to the development of spasms in either of these cases; viz. by restoring the broken fragments to their original places, and retaining them immoveably in that predicament, avoiding at the same time all hurtful pressure, a similar exemption from this harassing symptom may be obtained. Such anticipations are very plausible in theory, and will, I believe, if the experiment is properly made, be generally realized in practice." 483

Pain is very commonly associated with spasms, and the same cause that produces one may excite the other. It appears to us, however, that the mere shortening of the limb is not, per se, likely to occasion pain. That is, in general, dependent on the position of the fragments, the laceration of the parts, the extension of the nerves and skin, &c. There can be no question that the proper reduction and coaptation of the fracture are the principal means for relieving the suffering, dependent essentially on displacement of the bone.

Dr. Houston's remarks on the local inflammation and general fever that succeed to fractures, offer nothing to detain us. It is obvious that the cir-

cumstances of the individual case must be investigated, in order to enable the surgeon to determine in each instance the causes in operation, and the remedies adapted for them.

Dr. Houston proceeds to consider the best mode of treating fractures, and the comparative advantages of the bent and straight positions. He repeats much of what we have already dwelt on, with respect to the dependence of spasm on shortening of the limb, or on relaxation of particular muscles. We must say that our author rides his hobby at a good round pace. Take, for example, the following case, adduced in confirmation of his views.

Case. "A young woman, labouring under white swelling, with ulceration of the cartilages of the knee, but in whom the joint was to a certain extent very moveable, on account of a relaxed state of the ligaments, and effusion into the cavity, became affected with the most excruciating spasms of the limb, accompanied with pain, which forced from her heart-rending screams. The flexor muscles appeared to be those most engaged in the spasms, as the knee, on every occasion of starting, was raised in a bent direction from the bed. She suffered in this way for nearly three weeks, during which sleep scarcely ever closed her eyes, even under the fullest doses of opium; for notwithstanding the soporiferous influence of this medicine, she was continually roused at the instant of slumbering by a violent spasm of the limb. Neither had local bleeding, counter-irritation, or the application of anodyne liniments, the least effect in appeasing her sufferings. Under these circumstances it was determined to try the experiment of treating the case as one of fracture attended with spasms. A tailed bandage was accordingly applied around the knee with uniform and moderate pressure, and long bran-pads and splints were so adjusted as to prevent the possibility of any motion in the joint or limb; abstaining at the same time from all other medical treatment. The practice was most successful; for, from the instant of its adoption, the spasms completely subsided, and all pain ceased. Under a continuance of this plan the patient lay contented and at ease, until anchylosis of the joint was accomplished." 486.

Now we greatly doubt whether this can be regarded as conclusive evidence on the side of the opinion, that it is extension of a limb which especially prevents spasm. When ulceration of the cartilage of an articulation has occurred, the slightest *motion* occasions pain, and commonly gives rise to spasmodic contractions of the muscles. So marked a symptom of ulceration of the cartilage is this, that it is insisted on as almost pathognomonic by Sir Benjamin Brodie and others. The way to prevent this is to prevent motion, and to maintain the joint in a state of perfect rest. In different joints the position best adapted for this purpose varies. The knee should be slightly, and very slightly, flexed—the elbow should be kept bent at a right angle. If Dr. Houston's theory were true, the position in the latter instance would be ill-calculated to obviate spasm. But it does obviate it notwithstanding; and the effects of a pasteboard splint which keeps the elbow bent, are as satisfactory as those of a corresponding splint, which keeps the knee-joint straight. It is the absolute rest obtained in each case, rather than the mere position, which, so far as we have seen, has proved of benefit.

Dr. Houston remarks, in continuation, that in the management of fractures, the best position encourages the action of the flexors, already too disposed to contract inordinately. For this, and for the other reasons on which we have already dwelt, Dr. Houston announces himself the advocate

of the extended posture in the treatment of fractures, accomplished, if necessary, with extension.

Dr. Houston recommends immediate "setting" of the limb, provided no particular circumstances are present to render it improper or unadvisable. We cordially agree with him. The limb is usually set with less trouble, less pain, and less extension in the first instance than afterwards, and the thing is done at once instead of at twice or thrice, or oftener. Dr. Houston urges many objections against the double-inclined plane in the management of fractures of the leg and thigh. We think with Dr. H. that it is a clumsy instrument—unnecessary, even if effective, in the former case—and possessed of many vices in the latter. Dr. Houston presents a detailed account of the apparatus employed by himself. It is sufficient for us to observe, that it consists of a long straight splint, resembling the splint of Dessault, applied on the outside of the limb—and of another long straight splint on its inside. These splints are properly padded, and to holes in each, at their lower extremities, a foot-board is adjusted. A tailed bandage is applied previously to the splints themselves. If extension is required, it is made by a bandage attached to the ankle, and the notch at the lower end of the outer-splint; while counter-extension is obtained by a bandage passing between the perineum and the notch at the upper end of the same splint.

Such are the essential features of the observations of Dr. Houston, as well as of his apparatus. The gist of the former is the recommendation of extension—while the latter is a modification of the apparatus of Dessault, employed at many of our hospitals, and more particularly at St. George's.

In principle we agree with Dr. Houston, but we think that his views are very incomplete in their details. We are quite satisfied, for our own parts, of the superiority of the plan of extending fractured limbs over that of humouring and bending them. Of this we are quite satisfied. But we are not so contented with Dr. Houston's one Procrustian method.

In the first place, the splint of Dessault, or modifications of it, do not answer well in *some* cases of fracture at or near the trochanters. The bandage of counter-extension occasionally interferes with the coaptation of the bone. In the majority of instances this objection can be obviated by making the long splint reach as high as possible, (almost to the axilla,) when the counter-extension is made more directly in the axis of the limb. Yet we have seen the long splint fail, and the double-inclined plane adopted of necessity, in some cases of fracture in this situation. On the whole, the Dessault's splint is an excellent apparatus for fractures of the thigh. A surgeon conversant with the mode of its employment, can prevent shortening and deformity of the limb with almost absolute certainty. The long splint on the inside of the limb is a very good addition, but it is not indispensable. A very good plan is to apply, besides the Dessault's splint on the outside of the thigh, three short splints—one on the inside of the thigh, one in the front, and one behind it.

But in fractures of the leg we are not disposed to approve equally of Dr. Houston's plan of management. There appear to us to be two objections against the long splint in fractures of the leg. In the first place it is unnecessary. There is no good reason that we can see for crippling the whole limb. Apply the long splint as well as it possibly can be applied, and still

it is far from an agreeable apparatus. There must be some pressure on the perineum—the patient is absolutely stretched upon his back—and the passage of the stools and urine is troublesome. There are so many inconveniences of this description attendant on the long splint, that no patient would or should submit to them without the prospect of some great advantages. The inconveniences are not very great, but still they are inconveniences, and every unnecessary one, small as it may be, is no doubt discreditable to the surgeon. We have no hesitation whatever in asserting that fractures of the leg, simple or compound, may be well managed without the long splint, better indeed, in our opinion, than with it.

The second objection that we have towards the long splint, or any lateral splints whatever, whilst the limb is laid on its posterior surface, is its inapplicability to some cases, and the inadequate support to the back of the limb afforded in many others. We say its inapplicability to some cases. Suppose, what is not uncommon, a compound fracture with a low lateral wound. That wound cannot be dressed without daily disturbance of one splint, perhaps of both. That is a serious evil. There is nothing more clumsy, nor more mischievous, than repeatedly undoing an apparatus and trusting to the support afforded by the awkward or shaking hands of assistants. Even if the wound is not low on the side of the limb, but situated on the front of it, still, if there is much discharge, that cannot be prevented from running down between the splints and limb, rotting the paddings, and lodging behind. What are we to do then? There is a great complicated apparatus to change. A long splint is to be wholly or partially removed from the outside, and another must be quite taken away from the inside, and the cloth that connects them behind must be changed too. We are quite sure this is *not* a convenient method of treating compound fractures of the leg.

Then, again, in many cases, it affords an inadequate support to the broken limb. That support behind consists solely in the towel or band which passes from one splint to the other. There is little to prevent that from yielding to every possible degree, except the lateral compression of the side splints, and their fixture at the thigh and ankle. This cannot be so steady or secure as in many cases of fracture of the leg, and especially of compound fracture, is absolutely indispensable. We should say that, in compound fractures of the leg, the following are essential requisites for a really good apparatus—means of fixing perfectly the knee and foot, between which, when fixed, the extension is first made and afterwards maintained—good support to the limb in the intermediate points, that support being chiefly applied to the part of the limb, the back or the side, as circumstances may require, which we choose to be dependent—and, finally, a facility of getting at the limb, and thoroughly changing the dressings, without disturbing the fractured bones. For the reasons we have mentioned, and for others which we might advance, we do not conceive that the long splints proposed by Dr. Houston are calculated to answer the objects we have stated.

In simple fractures of the leg attention and skill will make almost any apparatus answer. At all events, they usually will do so. We have seen the common side splint—the junk—Mr. Amesbury's ingenious apparatus—the swing German apparatus—the fracture-box of Assalini, &c. succeed almost equally well. The great point is to procure good apposition of the

fractured surfaces at first, and to watch the limb with gentle assiduity. We do not therefore attach a very high degree of consequence to the *kind* of apparatus in the management of simple fractures. Much more depends on the knowledge of the surgeon. We must say that the position of the limb on the outside, laid in a well-shaped wooden splint, with a foot-piece, and secured to it in such a way at the knee and ankle, that the many-tailed bandage can be used between those points—we must say that this outside splint conjoined with a common splint on the inside, so applied as to be readily removed without disturbing the other, constitutes an apparatus which is very easy to the patient, and very convenient to the surgeon.

But the great difficulty is in the treatment of compound fractures. No one apparatus can apply to all; the situation of the wound must in a great degree determine our choice. Fortunately, the wound is usually sufficiently in front to permit the limb to be laid on the calf. That in such a case is certainly, in our opinion, the best position. But what is the best apparatus? So far as we have seen and read, a modification of the fracture-box of Assalini supplies more than any other the requisites which we have already pointed out. The modification to which we allude is in use at this time in St. George's Hospital. It does not ascend so high at the sides as Assalini's box—above there are two pullies for fixing the ends of a bandage which passes obliquely beneath the patella, and effects the counter-extension—at the lower end is a sliding foot-board, the angle of which with the horizon also admits of alteration. The knee being fixed, the foot is tied to this by a proper tailed bandage, and foot-board and foot are forced downwards by a screw, so as to effect and keep up the extension. Between the foot and knee is a many-tailed bandage, on which the limb is laid; the tails cross in front, which is otherwise free, for the purposes of dressing and examination. Small padded splints or compresses are applied in front, if necessary, and secured to brass buttons, which are ranged along the external sides of the fracture-box. This apparatus, of which we have offered a mere imperfect sketch, we have tried and seen tried again and again. It has almost superseded all other modes of management in St. George's Hospital.

If the wound is behind, or so much on the posterior part of either side as to render access inconvenient whilst the limb is laid upon the calf, there appears to be no doubt that the best, indeed the only plan, is to place it on a splint on the side opposite to the wound.

Such are the observations we would offer on Dr. Houston's paper. We have limited ourselves to the points which he discusses, and avoided touching on many important and interesting questions. In principle we agree with Dr. Houston—that extension is the best mode of treating fractures, more particularly of the thigh. But we differ on the mode of extension he recommends in fractures of the leg.

We now turn to a method advanced with confidence, and defended with plausibility. We are struck at once with the truth of the sarcasm so frequently flung against medicine—that its certainties are such, that if one of its professors affirms a color to be white, the next who is appealed to will probably pronounce it black. Hot and cold are blown alternately till the rational spectator is inclined to doubt the firm foundations of such a see-saw science.

We have seen Dr. Houston warmly advocating the treatment of fractures by extension. Cases have been adduced, reasoning has been employed, to set forth its merits and advantages, and not only Dr. Houston, but many other surgeons of no mean practical attainments, have assiduously laboured to invent or to improve apparatuses by which it may be best applied. But all this is an absolute delusion. Muscles, if you only let them alone, have no disposition whatever to contract; nay, so far from tending to shorten a limb, they form the nicest, softest, warmest padding for it possible. Such is the new creed of which Mr. Radley, of Newton-Abbot, in Devonshire, is the apostle. And a very ardent apostle he is. He does not mince matters —he does not say "splints may be useful in some cases," but he pronounces, without any reservation whatever, the condemnation of all splints in all cases.

Those who would desire an intellectual treat should peruse the two papers of this gentleman, contained in the Lancet for the 31st of October, and the 21st of November of last year. The papers in question are absolutely curiosities. The mixture of fancy, folly, and fun, is in keeping with this merry time of Christmas, and might be borrowed by Hood for his Comic Annual. Mr. Radley would appear to be a veteran, and his bonhommie is of the Abernethian School, though he tells us that he derived his professional lore from "the precepts of that deservedly estimated anatomist, Joshua Brooks, in his simple classification of the muscles of the extremities according to their uses, and his doctrine of muscular contraction." That those precepts and that doctrine were not instilled into the ears of the neophyte in vain we shall shortly prove. It is impossible to be out of humour with Mr. Radley, who deals his blows on the *splinters* with such good-tempered drollery, that they cannot themselves do otherwise than laugh.

It is difficult to analyse Mr. Radley's notions, as they rather border on what rhetoricians term the rigmarole. So far as we can sift them from the verbiage, they appear to form such cinders as these.

1. Splints are unnecessary, because, says Mr. R. "do surgeons ever apply splints to a broken rib?" No, Mr. Radley, they do not; because Nature has furnished splints of her own,—the other ribs. Surgeons do, however, bandage pretty firmly for broken ribs to prevent motion of the fractured ends, (the other ribs acting like splints effect extension,) and whoever has treated many broken ribs, knows the ease which the patient usually experiences after the bandage is applied. "I have not yet heard," continues Mr. R., "that in fractures of the clavicle the inventive power of surgical genius has designed a splint." But that inventive power has designed something in this instance better than a splint—a powerful extending bandage. Suppose broken clavicles were let alone, what pretty clavicles they probably would be. Neither, says Mr. R., do we find splints employed in fractures of the lower jaw, or of the cranium. These analogies are too profound for us.

2. Splints are unnecessary, because Mr. Radley invariably succeeds without them. The only two instances of fracture of the thigh treated without splints, which Mr. Radley relates, are these.

"The next case I shall mention occurred in August, 1830, in a weak little girl, about five years old, who was being carried in the arms of her sister, when both fell together, and the younger had her thigh simply fractured. The name

of the child was *Towse*, and she lived in Newton Bushel. The bones were brought into apposition on a pillow, a bandage was applied, and some isolated slips of thin mahogany *veneer*, were lightly placed here and there over the course of the fracture,—for show, not for use, not exerting any effect. My reason for placing them so was to propitiate the ignorance and prejudice which always strenuously contend for retaining old forms. I thus affected at that time to do as others did; but not so now. The child remained under the evaporating action of a moist bandage, in an easy state, for four days, sometimes half sitting, resting on her elbow in bed, and playing with her fellows. She ate and drank as usual, and slept without disturbance, for the limb was placed in the natural position, which I in a great degree had let her choose at the first, and which she said was easy to her."

"An evil-minded old woman, on the fifth day, seeing the child so easy under a fracture of the femur, shrewdly suspected that the bone was not broken at all, and that the surgeon was only 'making a job of it.' She whispered her suspicions to another old crony (the child had lost its mother), and these wretches took off the bandage, and actually placed the child upon its feet! The bone of course was displaced. The mischief-workers saw and felt the crepitus, the child shrieked, and, conscience-stricken and alarmed, Mr. Gaye was sent for, who replaced the bandage, and, *secundum artem*, splinted it up with the pieces of veneer, though with more pressure than is consistent with my mode of procedure. The child ultimately did well; and so, indeed, do others, even where much unnecessary force is employed. Mr. Gaye, my esteemed friend, makes very good cures indeed, and uses splints; but he is extremely careful, and does not employ a tithe of that force which I have seen employed." 289.

The evil-minded old woman was wise in her generation, and so was Mr. Gaye in his. For certainly this case cannot be said to have been treated without splints, inasmuch as, after the fifth day, they were applied secundum artem by that gentleman. In the next case, no splints were used.

Case. "Richard Curnell, aged 45, I think, a pauper in the village of Kingsteignton, in the month of August, 1834, slid from the top of a large corn-rick which he was thatching, and fell to the ground. The height was upwards of twenty feet. The clavicle and the femoral shaft on the right side were both fractured. The fractures were not compound, but the depth of his fall and the violence of the shock greatly aggravated the symptoms. The thigh was placed on a long pillow, on a bed perfectly soft, and treated with the tailed bandage, wetted with cold lotions; the skin was sponged with tepid water several times a day, allowed freely to evaporate in the common atmosphere of the room. As the cure advanced, camphorated and oily embrocations were applied generally over the limbs, and, at last, the supporting circular plaster of leather, overlapping the fractured portion, kept on with a bandage, perfected the cure." 289.

That a cure took place we do not doubt, but the information we should most desire would be on the length of the cured limb, and on a few other matters of that sort. Mr. Radley relates several cases of broken leg. One or two are apparently satisfactory; the majority are of some such character as this.

Case. "An old Newfoundland man, residing in Kinkshenwell village, presented a somewhat parallel case. Twenty years before, and it had been my turn to serve him; he had broken his leg while engaged in the Newfoundland fishery. One night in the Christmas season of foolish carousing, he fell down on his road home, in the dark and dubious way, and again broke the same unlucky leg. This might be called act the second. His leg was treated with the same routine as my other cases though with very humble materials. He returned to his work

at the end of four weeks, and many a sailor-like oath did he bestow on 'the blockhead of a doctor' who had kept him 'so long *belayed* in board splints and blankets, in his berth, on board the old brig, on the banks of Newfoundland.'" 291.

In conclusion, Mr. Radley invokes the shade of Brookes. but as that "can't come," he takes his old master's place, and, laying hold of a young student by the button-hole, he descants to the unhappy youth, "on some such anatomical and physiological subjects as the following."

"The radius and ulna sympathise with and support each other, in the misfortune of fracture happening to either; while, with one point of exception, from peculiarity of structure and office, the interosseous muscle and ligaments keep them in close contact, and they cannot therefore require the aid of splints. If both these bones at once are broken, be assured it will be quite natural for them, like the Siamese youths, to lie still together, unless you molest and 'bind them fast in fate,' in the painful fate of splints.

Is the humerus or the femur broken? The latter, in particular, is invested all around, and beautifully and strongly inclosed within, by integuments—by an unyielding fascia made tense at the pleasure of the will, supported by a mass of muscles, its natural defenders; with a host of vessels to supply it with warmth, and to afford the means of restoring its continuity, a continuity not lost, but merely interrupted; nerves, also, exquisitely alive to pain, which warn of the approach of danger, and will not impel their obsequious servants, the muscles, to disturb the bone, unless offended by irritating causes; and if through force or violence the bone is impelled through the investing coverings, reduce it to its place *in situ*, and all will be well, if you withhold interference with the operations of Nature—an interference that will be prejudicial, though honest.

In a fracture of the fibula we need not trouble ourselves with splinting, because its tried friend tibia will, with rest, compel it to keep its own place better than any external aid. Again, is the tibia broken? The interosseous ligament, when not ruptured, is a firm band of union between the two bones, just commensurate with their length. We may further quote the words of a good surgical authority:—'The fibula resists the causes that tend to produce displacement of the tibia, when fractured.' Thus much for the support given by bones in juxta-position.

But should both these bones be broken, do not fear they will be too soon placed in a condition to sustain the body. The limb in such a state is like a man who has received a stunning knock-down blow, and cannot rise again, until there is an *adequate* recovery of sensation. So the leg, if not irritated, will have a disposition to lie still until well recovered. Assist the cure, and when once settled, be careful not to inflict pain on it." 293.

The preceding may be said to be the pith of Mr. Radley's practical injunctions. He is not sanguine on the speedy prevalence of his views and treatment. "Before (he says) I shall have aroused the attention of the careless, made converts of the rich, persuaded the proud, convinced the opiniated, and compelled the interested and the obstinate to yield to the influence of shame, many years may have rolled away." Such is the inveterate obstinacy of error, that we think Mr. Radley's gloomy anticipations are very likely to be realized. For ourselves, we are not ashamed to own that we don't intend to be convinced. Our obstinacy is so confirmed, that we prefer the evidence of our own imperfect senses to the eloquence of Mr. Radley—and, although we know that we ought to believe that muscles will be quiet, and not distort or shorten fractured limbs, yet such are the optical delusions we have experienced, that we cannot disburthen ourselves of the

idea, that we have *seen* them do all that Mr. Radley assures us they do not. Fortunately for Mr. Radley and for truth, and unfortunately for the manufacturers of splints, the present generation will, in due season, be gathered to their fathers. Our sons will then be divested of the prejudices that now oppose our assent to the new doctrine, and some Medico-Chirurgical Reviewer, yet unborn, will pay a tribute of critical respect to the memory of the great anti-splinter.

A TREATISE ON THE FUNCTIONAL AND STRUCTURAL CHANGES OF THE LIVER, IN THE PROGRESS OF DISEASE; AND ON THE AGENCY OF HEPATIC DERANGEMENT IN PRODUCING OTHER DISORDERS. With numerous Cases, exhibiting the Invasion, Symptoms, Progress, and Treatment of Hepatic Disease in India. By *W. E. E. Conwell*, M.R.I.A. Surgeon of the Madras Establishment, &c. Octavo, pp. 531. Duncan, Paternoster Row, Oct. 1835.

MR. CONWELL'S work is entitled to especial attention, as exhibiting the result of 20 years' accurate observation of hepatic disorders and diseases, in a climate which, unfortunately, furnishes but too many subjects for the investigations of the physician and pathologist. The plan which the author has pursued, renders his work more particularly adapted for the young medical practitioner, when he embarks for India, than for the profession of this country generally—and for this reason, that he goes, we think, unnecessarily into the anatomy and physiology of the organ in question; and dwells with great minuteness on the modus agendi of the various causes which, in hot climates, deteriorate the structure, and derange the functions of the biliary apparatus. If we were to add, that Mr. C. has indulged pretty freely in reasoning very much allied to hypothesis—and diluted his matter with rather too many words, we would probably not be very wrong, nor very censorial. But we are far from falling into the recent mania for HYPERCRITICISM—a system which aims entirely at exhibiting the acumen of the REVIEWER, without the slightest regard for the benefit of the public, or the justice due to an author.

The work is divided into two parts—the one doctrinal—the other clinical; The latter consisting of a series of abridged cases and dissections. The first part contains five chapters, the first of which is entirely anatomical and physiological, which we must pass over. We must confess that some portions of Mr. C's physiology appear to us rather fanciful, and require *confirmation*, as the Americans say, when they communicate INTELLIGENCE EXTRAORDINARY. The second chapter embraces the—

CAUSES OF HEPATIC DISORDER.

The disposition to prolixity, though apparent to the experienced eye in the

first chapter, will be more conspicuous in the second—because the anatomical and physiological details, in the former, are facts ascertained, and the prolixity will be considered merely as minuteness. But, in the second chapter, the author has ventured to tread on very debateable ground, and, were we inclined to criticism, we certainly should not fear to break a spear with the author on several points of etiology. But we will keep to the sober and useful, leaving refinement and speculation for those of our cotemporaries, whose literary appetites are allied to the physical GUSTO of the day—those who relish a haggis or a ragout far better than a hare or a saddle of mutton.

Among the causes of hepatic disease, our author first adduces external injuries, as falls, accidents, &c. whether on the region of the liver or the head. Secondly, he alludes to, and discusses the effects of, intemperance in drink. The *modus agendi* of vinous and spirituous potations is well sifted, and Mr. Conwell is a decided apostle of the antediluvian beverage—namely, Adam's Ale—or spring water. He is not, however, a rigid disciplinarian, for he allows his patients toast-water, barley-water, and rice-water, or congee *pro re nata*. He even rises into the generous—we had almost said the VOLUPTUARY, sometimes.

"The *habitual* use of wine is not necessary to the preservation of health in India. A moderate quantity is not *always* injurious; and it is less so if taken at dinner, after the sun goes down. In wet, damp, or cold weather, stimuli are occasionally useful, and produce not then the irritating effects that follow their use in the hot dry weather of India." 66.

This, we call liberality; and, upon the whole, we believe it the true doctrine of tropical hygiene. But we cannot expect that it will be generally followed in a region where the European is very often isolated from social intercourse with his countrymen—cut off from books and journals—and left to the solitary enjoyment of reflection, where the materials of reflection are thinly strewed around him. In such cases, who can wonder that the European should be tempted to the use of those exhilarating potations which elevate the spirits, although only for a moment, and solace the dull hours, days, and years, spent beneath a tropical and enervating sun!

Our author enters his caveat, also, against food of rich, nutritious quality—rich sauces, condiments, stews, &c. as tending to gorge the vessels of the portal circle, already too much disposed thereto by the high range of temperature. The effects of an Indian climate on the European constitution are thus graphically and accurately portrayed.

"Experience shows the changes ordinarily produced on European constitutions by a long residence in India. The European, after several years' residence, exchanges his clear complexion for a parchment, yellow, a leaden, or a dark, pale yellowish colour. His vascular and muscular tissues become flaccid and relaxed, and his animal and mental energies more or less diminished. His general health is impaired, and he continues, particularly as his residence becomes protracted, in a state of valetudinarianism. Medicine is at last constantly necessary to stimulate the functions of the liver, and of the gastro-intestinal tube. This is a very summary, but an exact sketch of those changes which the greatest number suffer from an inter-tropical residence. Some men retain health under singular disadvantages in India, as in all other parts; but they are here, as elsewhere, comparatively very few. Those least exposed to the inconveniences and evils of the climate, as might be expected, suffer the least from a residence in it." 71.

That temperature alone is not the only cause of hepatic disease, is proved

by the less frequency of this complaint in countries, where the range of heat is higher than in India—as in the West Indies, the coast of Guinea, &c. There is little doubt, indeed, that there is something in the climate of India which specifically induces to hepatic disorder. Mr. C. seems inclined to attribute this predisposition to the luxurious diet of the Europeans there, and supports this by the fact, that the Hindoos are not prone to hepatitis, their prevailing maladies being fevers, "depending on derangements of the gastro-intestinal tube." But, with deference to Mr. C.'s judgment, we submit that it by no means follows that the same cause shall produce the same effect in a Hindoo and a European. It is far more likely that these effects should differ, in consequence of difference of constitution, than that the causes of them should be of different kinds. Are not Europeans subject to fevers and gastro-intestinal complaints? Their robust constitutions and diet of animal food doubtless predispose them to inflammatory and congestive affection of the liver; but we do maintain that the same endemic cause which produces fevers in the Hindoo, produces hepatitis in the Englishman.

We agree with our author, that the predisposing passions are more deleterious in a hot than in a temperate climate. The want of exercise is also injurious to the European—and the heat of the climate leaves him little remedy, except temperance. Our author considers that long or repeated courses of mercury tend to induce hepatic abscess. Atmospheric vicissitudes are next adduced, and long dissertations are gone into, to explain the modus agendi of this, and all the preceding morbific agents. These dissertations, we think, are generally unnecessary.

The following is the category of symptoms that indicate approaching or existing hepatic disease.

"SYMPTOMS OF ACUTE HEPATIC DISEASES. *Symptoms of Hepatitis produced by Nervous Agency.*

1. Severe, deep-seated dull pain in the posterior part, or in the centre of the head.
2. Pain and stiffness of the back of the neck and base of the head.
3. An arid state of the fauces and difficulty of correct enunciation, red tongue, loss of fur, total disappearance of the lingual papillæ.
4. Pain of the back of the neck, and of the posterior-superior part of the shoulder, from the spine along the margin of the trapezius to the shoulder-joint.
5. Strong and painful beatings of the carotids.
6. Stiffness, soreness, sense of weight or oppression in the lower part of the neck; increased action, pain, soreness, or oppression of the heart.
7. Pain at the præcordia.
8. Embarrassment of breathing, and oppression about the epigastrium, lower part of the thorax, or hepatic region.
9. Pain in the region of the stomach, loss of oppetite, nausea, and various dyspeptic symptoms; thirst, febrile excitement, especially after eating; vomiting, white-furred tongue, prostration of strength.
10. Pain in one side of the face, sometimes apparently connected with the alveolar processes, and sometimes with the ear.
11. Pain in the right side, just at the gall-bladder, or in any part of a line parallel with it, but generally on the right side.
12. Pain, numbness, heaviness, or stiffness of either arm, or both.

13. Crick, or pain of the neck.
14. Stiffness or pain of the loins.
15. In the early stage, irritation, local pain, and sense of weight in the loins, with diminished excretion from the kidneys; the urine being dark like wine lees, or the colour of brandy.
16. Pain at the top of the shoulder, or extremity of the clavicle.
17. Pain, numbness, heaviness, or stiffness of the shoulder.
18. A shooting pain in the breast.
19. A constant dry cough.
20. Dyspnœa, with sense of oppression and tightness, with or without pain.
21. A dragging or a gnawing pain about the region of the liver.
22. A stitch, catch or lancinating pain on breathing, about the lower part of the chest.
23. Pain in the region of the liver, on turning in bed, moving suddenly or quickly, or on the body being shaken by making a slip or false step; frequently with tenderness on pressure.
24. Disturbed sleep.
25. Greatly increased action of the abdominal aorta, and frequent palpitation of the heart.
26. A sense of fulness in the chest, and inability to make a full inspiration.
27. A sense of tension or heat, at the epigastrium.
28. Pain extending in the course of the colon, from the cæcum to the sigmoid flexure.
29. Paid of the right kidney, more rarely of the left.
30. The patient lies with more ease on the right side; but this varies according to the extent and part affected, and to the new relations or adhesions that part may have formed.
31. Pain of the back, simulating rheumatism, from its greater severity at some than at other times.
32. A sense of strangulation at the larynx.
33. Pain in the eyeball.
34. Pain in the forehead over the eyes.
35. Pains about the pelvis and superior portion of one or both thighs.
36. Pain of the right or left knee.

Symptoms produced by an irritated and congested State of the Lumbo-abdominal Ganglyia and Plexuses, and of the Cauda Equina.

37. Cramp of the right or left leg, or both.
38. Pain of the right or left heel.
39. Pain on the dorsum of right or left foot.
40. Cramps of the soles of the feet, and toes.
41. Numbness of the legs and feet.
42. A sense of formication on the legs and feet.
43. A burning sensation of the legs and feet, observing regular daily paroxysms that produce excruciating pain.
44. A degeneration of the tissues, whereby the muscular and cellular tissues of the legs and feet become rigid and hard." 83.

Most of our readers, we apprehend, will be inclined to doubt whether all of the above symptoms are indicative of hepatic disease. That many of them may occur in a patient labouring under hepatitis, we do not deny; but we very much doubt whether they are all referrible to the disease of the liver. At all events, there is scarcely one of them that does not occur where there is no hepatitis at all. The following code of symptomatology is less equivocal.

"*Symptoms indicated by the renal excretion:*—

1st. The urine is scanty, red, dark, tinged with bile, like wine lees, impure, opaque, and largely blended with a substance like coffee or chocolate grounds.

2d. The urine being like stale or recently prepared decoction of cinchona and opaque, then after a few days, becoming largely blended with pus, quite opaque and milky for several days; and afterwards gradually becoming like milk-whey, and opaque. As the removal of pus from the liver decreases the urine generally becomes progressively pale.

Symptoms resulting from deranged action of the abdominal circle of vessels. Deranged hepatic action induces engorgement of sundry parts of the abdominal circle of vessels, and according to individual condition and circumstances produces: *first*, hepatic diarrhœa; *second*, dysentery; *third*, ulcers either of the large or small intestines, or both; *fourth*, inflammation of the mucous coat either of the small or large intestines; *fifth*, engorgement of the mucous coat and piles; *sixth*, peritoneal inflammation; or, *seventh*, mesenteric disease.

Symptoms from the general circulation. The pulse is hard and full, large or small, and sometimes oppressed; or it is dilated, soft and feeble.

Symptoms as to the tongue. 1st, The surface is red, furred white, with thirst; 2d, furless and red, sometimes smooth; 3d, marked with sulci and red; 4th, presenting a pale spot near the top; 5th, ulcerated and red; 6th, dark brown, dry and hard.

Physical symptoms. Fulness, tenseness or hardness of the region of the liver, and sometimes distinct swelling or dilatation of the inferior part of the thorax, and occasionally puffiness of the integuments over the liver.

Symptoms of the gastro-intestinal tube. 1st, In the early stage, costiveness and rarely looseness; 2d, in chronic hepatic disease, diarrhœa and dysentery occur.

Symptoms indicated by the skin. In the early or acute stage, stinging heat and dryness. In the chronic stage, or after suppuration, moist or wet skin from profuse sweats.

Symptoms indicated by the palms of the hands and soles of the feet. Always in the early stage, and sometimes in the chronic, burning arid heat, especially after meals, with fulness and hardness." 85.

The terminations of hepatitis are in resolution, effusion, adhesion, suppuration, ulceration, granulation, cicatrization, mortification, metastasis—and lastly, chronic disease. To which he has added—degeneration into other tissues. "The *effusion* into the hepatic tissue is met with in Europe, as shewn by the existence of large cysts and hydatids." Some people will consider this vague pathology. Hydatids are generally thought to be organized living beings—and the mode of accounting for their formation by mere serous effusion into the tissues of the liver, is anything but satisfactory. Our author has only seen one instance of mortification in the substance of the liver.

"*Metastasis*, or transition of inflammation from the liver to other parts, is of frequent occurrence. The gastro-intestinal tube, and especially its mucous lining, the kidneys, spleen, colon, peritoneum, the lungs, pleura, and the external surface of the body, are all of them subject to inflammatory attacks, translated or extending from the liver." 90.

The foregoing are the principal points, of a practical nature, which we have been able to select from the second chapter of the work.

The third chapter is on "functional disorders of the liver." It is, however, so divided and subdivided, that we have given up, in despair, any attempt to lay before our readers any idea of its contents. Verily Mr. C. has "cut blocks with a razor." From the fourth chapter we can only make one

extract, embracing the symptomatology and pathology of "congestive nervo-bilious fever, as seen in the East Indies."

"After slight chills or rigors (in some cases only discovered by injury,) febrile heat occurs with partial and irregular remissions. The pulse is soft, not large, from 98 to 130. The tonge is at first but little affected; it afterwards successively becomes clammy, furred, then red, sulcated, and ultimately dark and dry. The skin is at times hot; the hands and feet cold, and in other cases the surface is cold with profuse sweats; the head is always hot. The cold surface or extremities with occasional fainting or convulsive fits at the commencement, is diagnostic of this disease in its severe form. When the surface is cold with profuse sweats, the skin does not turn yellow; nor does it in every case where there is heat, but yellowness occurs only in those latter cases. Pain of the head is never wanting, and the patient often says, 'tis heavy as if filled with lead:' there is a sense of burning heat at the epigastrium, with constant retching, vomiting, and thirst. As in cholera, when the skin is cold and pouring forth cold sweat from every pore, so here, when the skin is precisely in the same state, the patient complains of burning and heat of the surface, and force alone will prevent him from throwing off the bed-clothes. There are intense restlessness and jactitation, the conjunctiva is injected, and the eye, from bright, soon becomes heavy like that of a person who has taken a quantity of wine. The bowels are always costive, especially in the earlier stages. The putrid symptoms, that mark the disease in the West Indies, &c. do not occur in the East.

Pathology. It appears, at least from my dissections, and from a physiological analysis of the symptoms, that this fever is formed by an association of several morbid states. 1st, Inflammation of the interior surface of the arteries. 2dly, Cerebral congestion. 3dly, Congestion and irritation of the envelopes of the ganglionic system. 4thly, Congestion and irritation of the inferior twenty-four inches of mucous membrane lining the ilium. 5thly, Gaseous distension of the ascending and right arch of the colon that presses on, displaces, and folds the stomach to the left. 6thly, Hepatic Congestion. 7thly, In some countries, a putrid state of the fluids. The inflammation of the arteries, and congestion of the cerebrum, of the liver, ganglionic system, and the lower part of the ilium (ileum), are all branches from the same stem,—that is, the congestion of the ganglionic system taking place, it follows that the movements of the heart, and the circulation in the capillary vessels, should become deranged, because they are under the control of those nerves. The very intimate connexion between the pulmonary and cardiac plexuses, and their extension to the stomach and solar plexus, explain why malaria, acting on the lungs, exerts an immediate influence upon the pulmonary, cardiac, gastric, and abdominal plexuses." 190.

"*Treatment.* In the outset, the head should be shaved, as extensive advantage results from keeping the head cold, which cannot otherwise be so well effected. The rapid tendency of the disease to terminate in cerebral engorgement and death, warrants the prompt employment of the most energetic remedies. If general bleeding has been omitted at first, its subsequent use hastens death; after the first stage, or twenty-four hours, leeches should be largely used. In the case of an athletic European, thirty leeches should be applied around the base of the head and over the sutures, fifteen down the spine, ten to the epigastrium, and five to the anus. Blisters should then be used—one between the shoulders and one to the epigastrium, the second to be applied when the first is removed. A free dose of calomel ought also to be given, once or twice a day, with or without opium. Half the above number of leeches should be repeated after ten hours, if the pulse, or febrile heat, indicate their use, and strong sinapisms applied to the lower extremities, if cerebral engorgement threatens delirium or coma. In milder cases of congestion, hot mustard baths to the lower extremities are useful. Cold applications to the head, after shaving it in the earliest stage, should never be omitted. General cold affusion is very seldom required in this disease. Mercurial purgatives cannot, with

safety, be omitted. The danger subsides when ptyalism occurs, but, unless depletion enables the vascular and absorbent systems to act freely, mercurials will not produce this effect.

When a perfect remission occurs, and warrants the use of quinine, it should be used, whether ptyalism has occurred or not." 195.

We must pass over some observations on acute hepatitis, which are not important, to notice—

CHRONIC HEPATITIS.

After acute hepatitis, congestion, or obstruction, a valetudinary state often takes place, marked by debility and dyspepsy.

"In this condition of disease, the hepatic function is depraved. There are many obscure and some distinct symptoms of hepatitis; and the gastro-intestinal functions rarely continue in a natural state for more than a few days without treatment." 201.

Symptoms and Pathology. The symptoms vary with the stage of the disease, and the pathological condition. Acute hepatitis inefficiently or improperly treated usually terminates in suppuration, one or more abscesses forming. These abscesses may be large or small; they may occupy parts near the convex surface or the centre of the gland, or the inferior surface, the extreme right or the left, or the anterior or the posterior margin of the viscus. If they occupy the centre, they will be announced by hectic fever and sweats, with tendency to diarrhœa and dysentery, accompanied by great prostration of strength and dyspepsy. Pains simulating rheumatism are occasional concomitants when the abscesses occupy parts adjoining the inferior surface; because the solar and lumbo-abdominal plexuses and ganglia are then more frequently affected in consequence." 202.

"When abscesses are placed in the centre of the gland, the pus either passes through the hepatic veins, or remains and excites occasional or partial accessions of inflammation and fever; the original cyst being enlarged by ulceration and suppuration, which advance in some cases slowly, in others rapidly."

"The soft hepatic enlargement, decrease of pain, accession of hectic and profuse sweats, sleeplessness, soft pulse, red beef-steak tongue and general debility, evince the existence of hepatic abscess." 203.

In the treatment laid down by Mr. Conwell, there is nothing particularly novel. General or local depletion, according to circumstances—counter-irritation—purgation—alterative doses of mercury—even to ptyalism, if necessary—neutral saline medicine, &c.

In the fifth chapter, the author takes "a physiological review of the principal remedies used in the treatment of hepatic disease." But we cannot indulge even in a single extract, since the matter is more adapted for lectures from an Indian chair at Edinburgh to an audience of young gentlemen about to embark, after the curriculum of their studies was concluded, for the burning shores of the Eastern hemisphere.

Nearly half of the volume (p. 255 to p. 331) is a mere copy of the case-book, abridged—to which we must refer our readers, if any of them should have time or inclination for the Herculean task!

In conclusion, we must say we have been greatly disappointed in the perusal of this work. We have endeavoured to give some idea of its contents to our readers; but the mode in which it is arranged and composed defies analysis.

THE BRIDGEWATER TREATISES.

Chemistry, Meteorology, and the Function of Digestion, considered with reference to Natural Theology. By *William Prout*, M.D. F.R.S. &c.

There have been serious doubts whether the pious and philanthropic expectations of the late Earl of Bridgewater have been fully realized. It is impossible to admire or to laud too highly the spirit which dictated the appropriation of so large a sum as eight thousand pounds, from the property of a private individual, to the exclusive service of religion. It was a similar spirit that, in the middle ages, induced the superstitious Catholic to render a posthumous atonement for real or imaginary crimes, by founding receptacles for men whom laziness or mistaken piety secluded in the cloister. A spirit, similar in kind, but different in its rationality. We cannot conceive a more striking instance of enlightened devotion, than the dedication of a princely sum to the diffusion, among the careless and the ignorant, of a knowledge of the wisdom and goodness of their God.

But, as we observed, it has been seriously doubted, whether those who superintended the execution of the bequest adopted the best means of giving it effect. We admit the difficulties under which they laboured, and the impossibility (we might almost use that term) of procuring, at a minute's warning, men able and willing to handle, at another's bidding, a deep and complex question in a masterly way. The result has been what was, in some degree, anticipated. A series of bulky volumes have issued from the press, in which the single argument of design has been so diluted and dilated, that it has lost in quality more than it has gained in quantity. Did we wish to convince an atheist of his error, we would refer him to Paley, not to the Bridgewater Treatises. Paley has chosen his ground and managed his case as a logician would. The writers of the treatises have been compelled to employ much mere argument and conjecture, and to urge probabilities as well as proofs. Those who are acquainted with the human mind, know that one sound argument, strong in all its parts, goes farther to convince unwilling reason than many arguments, parts of which are not strong. If Paley proves design by the mechanism of a watch, he also proves design by the mechanism of a muscle. The very simplicity of the reasoning is its force. The man who contravenes, or tries to contravene it, opposes the common experience of mankind; and that is the very thing to be desired. We do not fully agree with Dr. Prout on this point. In the treatise lying before us, that able physician remarks:—

"When a series of wheels or of levers are arranged in a certain order, they *must* move in a certain way, and produce a certain effect which can be foretold exactly. In such a case, we may admire the skill and ingenuity of the Contriver, or perhaps feel astonished at his power, but we scarcely do more, and much of the effect is lost in the apparent necessity of the result, and the consciousness that under the circumstances nothing else could have happened. When the Deity, therefore, operates through the medium of mechanism, he appears almost too obviously to limit his powers within the trammels of necessity; but when he operates through the medium of chemistry, the laws of which are less obvious, and indeed for the most part unknown to us, his operations have much more the

character of those of a free agent, and, in many instances also, appear of a higher order, and are more striking and wonderful. Do not, for instance, those extraordinary and mysterious changes constantly going on around us, beneath us, within us, derive no small additional interest from the very circumstance of their not being understood? 11.

This view is correct or not, just as we do or do not consider it in the light and nature of an *argument*. If a thing is to be proved, the plainer and simpler the method of proof, the more efficient it is for its purposes. It may enhance our estimation of the powers of the Deity, to contemplate the incomprehensible wonders that surround us, if we commence the contemplation of those wonders impressed with the belief that there *is* a Deity. But it must be obvious that, in proportion as they are unintelligible, they are less and less adapted to form an ab initio argument in favour of the Deity's existence. First prove that there is a God, by arguments the most simple and logical that can be found—then gradually heap up the mass of cumulative evidence, which, although in logic it may not strengthen the more positive primary data and conclusions, yet, to the common sense of mankind, offers additional reasons for belief.

From what we have seen of the Bridgewater Treatises, we should say that they are rather adapted to confirm faith than to create it. The fact is, that Paley has left the great argument for natural religion almost in a perfect state. If design proves the existence of a God, Paley has proved the existence of design. All that can be done, is to add variety and number to his illustrations, and to charm the reader, who has learnt to recognize the hand of a Maker, with the fresh examples that the progress of science is continually unfolding of HIS wisdom, and power, and goodness. And this is, in truth, a noble office—the most universal prayer that human intellect could frame as a tribute to the Deity. What can we conceive more worthy of all the beneficience He has displayed, than the picture of his creatures exerting the reason He has granted in exploring the penetralia of Nature, for materials to form the theme of gratitude and adoration to Himself.

We are led to notice the present volume, because it gives us pleasure to second, in our small way, the benevolent intentions of the Earl of Bridgewater, and to disseminate among the members of our profession, too many of whom are accused of levity, if not of actual irreligion, a more extended knowledge of the great natural truths, than the exclusive practice of medicine can afford. A writer in another journal* has broadly charged us with impiety. We all know that there is a set of persons who measure true piety by their own opinions, whose god is the fiery god of bigots, and who, on all occasions are too well disposed to—

> Deal damnation round the land,
> On each *they* judge His foes.

We will not say that the writer to whom we have alluded belongs to that unhappy description of men; but we can only award him charity at the expense of understanding. True friends to religion, and sincerely desirous of promoting its best interests, we cannot see, without sorrow, its injudicious

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* The medical Gazette.

advocates exposing it to ridicule and contumely, by their indecent though well-intentioned efforts to introduce its mysteries into all companies and all discussions. They are eternally handling the Ark, as if the divine fabric of Christianity needed this incessant plastering and propping.

We must not forget, that the arguments for natural and revealed religion are essentially distinct. Their proofs are separate, and so should be their consideration. Natural religion is established by the palpable design displayed throughout the scheme of nature. Revealed religion rests on the force of testimony and the accomplishment of prophecy. So strong is that evidence, so complete the fulfilment of those prophetic missions, that the most acute reason and most towering intellects have submissively allowed their force. But gentlemen like Mr. Kirby, anxious, yet not discreet in their anxiety, to offer to revealed religion extraneous support, have unwarily made it rest on evidence and argument which were not intended by the Almighty to prove it, and cannot, from the nature of things, do any thing but prejudice it. When, for instance, Mr. Kirby gravely attempts to fortify revelation by fancies so crude as to be laughable, and hypotheses so groundless as not to admit of sober discussion—when Mr. Kirby gravely does this, we conceive that the best friend of religion is he who checks the gratuitous injury to her cause. Such, at all events, is our conviction, and, though we may be wrong, we will not quietly permit any man, publicly or privately, to impugn intentions, which he arrogantly assumes the power of divining. Those intentions, we are conscious, will bear the strictest scrutiny, not only of others, but, what is more important, of ourselves; and we endeavour, to the best of our ability, to give them effect. But we gladly drop this unpleasant topic.

The work before us is devoted, as the title tells us, to chemistry, meteorology, and the function of digestion. Much in such a treatise must be elementary; and, whether elementary or not, the greater portion must be too exclusively consecrated to chemical and philosophical details to admit of notice in a medical review so avowedly practical as this. All that we can do is, to select some parts of the treatise for analysis or criticism, and lay before our readers such facts or opinions as we think adapted for us and for them. This plan, which is unavoidable, will preclude our offering a connected view of the work, and those who are anxious to become acquainted with *all* that it contains, we must refer to the author himself.

The treatise is divided into three books—the first being occupied with the consideration of chemistry—the second with that of meteorology—and the third with that of the function of digestion. Perhaps the natural connexion between the several subjects is not so strong as might be wished, but each is, *per se*, replete with interest to all who are anxious to possess some knowledge of the wonders and variety of Nature.

Chemistry is treated in the following order. After some remarks on the rank of chemistry as a science, and on its application to the argument of design, Dr. Prout considers seriatim—the mutual operation and the laws of physical agents and of matter—the properties of matter, including a view of solids, liquids, and gases—of electricity, magnetism, and polarity—of heat and light; next we are presented with a sketch of the chemical elementary principles, which lead to the laws of chemical combination, and an outline of the atomic theory. This may convey an idea of the plan adopted by our

author, who dedicates 178 pages to this portion of his subject. At the end of several of the chapters is a recapitulation of the leading facts, or of the principles enunciated, and to these recapitulations we confine ourselves.

In the opening of the first chapter is a quotation from Paley, which we recommend to the serious attention of those, who, not content with summoning the Deity to a special intervention for their puny interests, at every instant that their wants or passions induce them arrogantly to suppose that He should come—who, not content we say with this, heap opprobrious epithets on the heads of all who are too humble to suppose that the Omnipotent would for their sakes reverse his eternal laws. The passage in question runs thus.

"God has been pleased to prescribe limits to his own power, and to work his ends within those limits. The general laws of matter have perhaps the nature of these limits; its *inertia*, its reaction, the laws which govern the communication of motion, of light, of heat, of magnetism and electricity, and probably of others yet undiscovered. These are general laws, and when a particular purpose is to be effected, it is not by making them wind and bend and yield to the occasion, (for nature with great steadiness adheres to and supports them,) but it is, as we have seen in the eye, by the interposition of an apparatus corresponding with these laws, and suited to the exigency which results from them, that the purpose is at length attained." 16.

That the Creator of such forces as attraction, electricity, magnetism, and life, *could* alter or suspend them, no man in his senses will deny. The question is not if the Deity *can*, but if he *does*. Setting aside the established miracles of Revelation, we join with Paley, who was no mean reasoner, in thinking it more consistent with what we know of Nature, and with what we may suppose of God, to believe that He does not. But, however that may be, we are sure that it is at once indecent and disgraceful, to assail men for opinions which they hold in common with those who have adorned Religion, Christianity, and the Church. These are the muddy dregs of that ferocious ignorance which persecuted "the starry Galileo."

Perhaps some of our readers may be unconscious of the extreme divisibility of matter; or rather they may not be exactly aware of the calculations which ingenious men have made. As an abstract possibility, it seems equally difficult to suppose matter divisible ad infinitum, and to suppose that divisibility to stop. Such is the constitution of our minds, that although we are compelled to admit that an ultimate molecule there must be, yet we cannot conceive a molecule so small, as not to be made up of molecules smaller. The following, however, are the calculations on the subject. Dr. Thomson has shewn that an ultimate molecule of lead cannot weigh more than the $\frac{1}{310\cdot000\cdot000\cdot0000}$th, nor an ultimate molecule of sulphur more than $\frac{1}{2\cdot013\cdot000\cdot000\cdot000\cdot000}$th of a grain, and probably a great deal less; and that the *size* of the molecule of lead cannot surpass, and is probably much less than the $\frac{1}{888\cdot492\cdot000\cdot000\cdot000\cdot000}$th of a cubic inch!* The vegetable kingdom presents us with innumerable instances, not only of the extraordinary divisibility of matter, but of its activity, in the almost incredibly rapid development of cellular structure in certain plants. Thus the *Bovista gi-*

* System of Organic Chemistry, I. 7.

ganteum (a species of fungus), has been known to acquire the size of a gourd in one night. Now supposing with Professor Lindley, that the cellules of this plant are not less than the $\frac{1}{200}$th of an inch in diameter, a plant of the above size will contain no less than 47·000·000·000 cellules; so that, supposing it to have grown in the course of twelve hours, its cellules must have been developed at the rate of nearly 4·000·000·000 per hour, or of more than sixty-six millions in a minutes![*] and when we consider that every one of these cellules must be composed of innumerable molecules, each one of which is again composed of others, we are perfectly overwhelmed with the minuteness and number of the parts employed in this single production of nature. In the animal kingdom, monads have been discovered so small, that a million of them do not exceed in size one grain of sand. Yet each particular monad, displaying, as it does, sensitive, loco-motive life, must have its special organization. How wonderful the Deity—now contriving the muscles of a monad, now bidding a planet to swing in space!

Dr. Prout indulges in a pleasing theory on the cause of the chemical and cohesive attractions of the molecules of matter. We have not time to go into the theory itself, which, whatever its merits, is at present but a theory. The following recapitulation of the author embraces his principal conclusions, though not the data nor the reasoning that led to them.

"1. In the first place," says Dr. Prout, "we attempted to shew that the forces which determine molecular union can scarcely be those of mere gravitation, in their ordinary forms at least; but that some other modification of force is necessary to account for the phenomena.

2. By assuming the molecules of bodies to be virtually spheroidal, and endowed with two kinds of polarizing forces, the one operating *axiallay*, and the other *equitorially*, we attempted to show how the phenomena of simple crystallization might be explained; and we corroborated our argument by demonstrating that the electric and magnetic forces are actually related to each other, precisely as we assumed the energies of our molecules to be. Hence we ventured to draw the conclusion, that electricity and magnetism, if not identical with, at least represent, or are analogous to those forces, the existence of which among ponderable bodies we assumed as necessary to account for the phenomena of crystallization. Further, we attempted to render it probable, that the molecules of the imponderable principles, heat and light, possess polarities precisely analogous to those of ponderable bodies, and that many of their peculiar phenomena depend upon these polarities.

3. In attempting to account for the different forms assumed by bodies, we supposed that in the *solid* form, the molecules are so arranged as to attract each other according to certain laws; that in the *liquid* form, they are so arranged as neither to attract nor repel each other; and that in the *gaseous* form, the arrangement of the energies of the molecules is such as to render them mutually repulsive. Further, by assuming that those molecules which possess the property of attracting each other in the solid form in preference to others, retain a similar relation in the gaseous form, and repel each other in preference to others, we attempted to account for many of the well-known phenomena of gaseous bodies.

4. Lastly, we attempted to shew that the phenomena of *radiation* among the molecules of imponderable bodies, are precisely analogous to the phenomena of

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[*] Introduction to Botany, page 7.

diffusion and mixture among the molecules of ponderable bodies when in the liquid and gaseous states; and that consequently the same laws are strictly applicable to both."

The extract is long, but as it gives a resumé of the opinions of our author, it may not be uninteresting to those who are not in possession of the book.

The argument drawn from the molecular constitution of bodies, is not we think so forcible as some very able men have deemed it. The argument mainly rests on this:—that the very divisibility and molecular constitution of matter, are proofs that its present form has not been eternal, but the result of intelligence. Observe that the argument is not that this or that particular arrangement shews design, but simply that divisibility and molecular composition shew design. All hinges on the non-eternity of molecules. Let us hear what Dr. Prout advances:—

"Although we can form no idea of what matter would be without its molecular properties, there is yet nothing in these properties which can induce us to believe that they are *necessary* to the mere *existence* of matter. On the contrary, we have seen that matter possesses qualities (those of gravitation) of a more primordial kind, to which its molecular properties are apparently secondary or subordinate. But if these subordinate properties be not necessary to the existence of matter, matter might *possibly* at some time have existed without them. Now this very possibility is incompatible with eternal existence; for eternal (passive) existence necessarily involves incapability of change. Hence the molecular constitution of matter, even in this point of view, must be supposed to have had a beginning; and when we consider the leading and characteristic property of matter in the molecular state, viz. *the endless repetition of exactly similar parts*, the difficulty of arriving at any other conclusion is exceedingly increased." 87.

We confess we do not feel exactly as Dr. Prout appears to do with respect to the constitution of matter. If we can *conceive* matter to have existed without a molecular composition, and without some at least of the molecular properties, we own that we cannot do so. He instances the pre-existence of the property of gravitation; but gravitation seems to us to presuppose the presence of molecules. What is gravitation but the attraction of one molecule towards another? We cannot imagine it to be any thing else. If then one general molecular property be conceived to be eternal, another general molecular property may as easily be conceived to be eternal also. Analogy will not serve our author, for no analogy with which we are acquainted is in favour of the *necessary* pre-existence of only one homogeneous matter, without molecules or molecular properties.

Arguments drawn from metaphysical possibilities or impossibilities, are seldom of much value. These are the ultimate facts with which our reason struggles to no purpose.

> In vain we dive
> In our lone wanderings to the caves of death;
> Searching its cause in its effect, and draw
> From withered bones, and skulls, and heaped up dust,
> Conclusions most forbidden.

If we descend from the speculative regions of the molecular constitution of matter, to the grosser and more tangible compositions, that our senses, our instruments, and our analyses appreciate, we see no longer the misty chain of possibilities, but the certain evidences of wisdom and design.

Those evidences bring wholesome conviction in their train, while the subtle disquisitions of philosophy or fancy—disquisitions as various as the individuals who indulge in them, pass over the mind like a fantastic dream, and leave no substantial or permanent image behind. We would repeat what we have said before—that, for argument and proof, the more simple and obvious instances are best—but, as subsidiary to proof, as means of exciting our admiration, our awe, and our gratitude towards the Supreme Creator, the great operations of Nature, which rather logically infer design than prove it, should be resorted to by the theologian.

We must make one stride from the commencement of the portion of the work which treats of chemistry, to its conclusion. In the recapitulation which we find here, the author points out the adaptation of one thing to another, which we observe in our survey of the Universe. He dwells, for example, on the relation of the water to the temperature of the earth. Supposing that temperature to have been much lower, the water must have been frozen—supposing it to have been much higher, the water must have been converted into vapour. Unfortunately, however, this is, like many of the general facts and laws of Nature, not of much service as a mere argument. The sceptic, pointing to the telescope, observes—in other planets, you see that there must be other temperatures than that which exists in connexion with the earth, and, in them, matter takes its form and its consistence in accordance with it. But, when we prove design in small things, and we perceive adaptation in great, that mind is strangely constituted which, whilst it cannot refuse the palpable existence of contrivance in the valves of the aorta, contends that there is none in the arrangements of that world, on the surface of which the beings with aortæ form scarcely perceptible atoms. In fact, there are but two human beings who *can* be atheists—a downright idiot, with no reason at all—or a downright metaphysician, who refines his reason away.* With this dogmatical, though, we think, not very incorrect conclusion, we take our leave of the subject of chemistry. The whole of the last chapter upon it, in the treatise, is creditable to the head and heart of the author.

The second book, to which we now proceed, treats of meteorology, and embraces a general sketch of the constitution of the globe, and the distribution and mutual influence of the agents and elements of chemistry in the economy of nature. We cannot, of course, pursue our author in this discursive range over sea and land, but shall confine ourselves to noticing such facts respecting climate as professionally interest us. The consideration of this is taken up in the second section of the third chapter.

After stating the common geographical division of the surface of the globe into torrid, temperate, and frigid zones, Dr. Prout considers, seriatim, the temperature of each. The poles and the equatorial regions represent, of course, the extremes.

We are yet deficient in exact information on the mean temperature of the polar regions. It appears that, if we attempt to calculate the temperature of the North Pole by the temperature of the old world, and by that of the new, we obtain very different results; the temperature of the old world in-

* Kant was an atheist.—Eds.

dicating the temperature of the pole to be about 10°; while the temperature of the new world indicates it to be considerably below Zero. Hence it has been inferred, that there are two points or poles of greatest cold situated in about the latitude of 80° north, and in longitude 95° east, and 100° west; and consequently that the geographical pole of the globe is not the coldest point of the Arctic hemisphere. Whether this deduction be well founded or not, must be decided by future observation. At present, the actual temperature of the Polar regions cannot be considered as determined.

The lowest *authentic* observations of temperature that we possess, are those by Captain Parry at Melville Island. Here the thermometer in the ship was often observed as low as 50°; and, at a distance from the ship, even as low as 55° under Zero. The greatest degree of cold produced artificially has been 91° under Zero.

"The mean annual temperature of the equatorial regions (says our author), like that of the polar region, is a meteorological problem of considerable interest. Humboldt, from a very extensive generalization, fixed the mean equatorial temperature at 81½°; and the same temperature has been adopted by others. Attempts, however, have been recently made to shew that this temperature is 3° or 4° below the truth; but Humboldt in reply still maintains his former opinions. Since at the equator, only about one-sixth of the whole circumference of the globe is dry land, the general equatorial temperature, as actually found to exist, is perhaps lower than upon theoretical principles it ought to be; and certainly much below what it ought to be, as deduced from observations made on the continent in the neighbourhood of the equator. Thus the mean temperature of Pondicherry, in latitude 11° 55′ north is at least 85°; and if from this temperature that of the equator were deduced according to the common principles, the deduction would of course be much above the truth. The fact is, as in the case of the Polar regions, we do not possess the requisite data for determining the equatorial temperature in a perfectly satisfactory manner." 211.

Very high temperatures have occasionally been observed in the equatorial regions. At Benares, the thermometer has been recorded as standing at 110°, 113°, and even at 118°. At Sierra Leone, it has been noticed to shew upon the ground a temperature of 138°. Humboldt gives many instances of the temperature of the surface of the earth, amounting to 118°, 120°, and 129; and on one occasion he found the temperature of a loose and coarse granitic sand to amount to upwards of 140°, the thermometer in the sun at the time only indicating a temperature of about 97°.

The temperature of the regions of the globe intermediate between the polar and the equatorial, presents a subject of equal interest and importance to the philosopher and the physician. The great geographical division of "temperate zone" includes so many places of very various temperatures, in the same parallels of latitude or of longitude, that, for all precise or useful purposes, it is totally effete, and superseded by what is termed the *Isothermal* arrangement. According to this, all the places upon the globe, having *the same annual mean temperature* are classed together; and lines drawn upon a map through such a series of places, have been termed *Isothermal lines*, or *lines of equal temperature*. Now these Isothermal lines are not regular, nor parallel to the parallels of latitude. The new continent is colder in the same parallel of latitude than the old, and, consequently, if we take the northern hemisphere, an *Isothermal line* is nearer the pole in the old world

than in the new; in other words, places in the *same* parallel of latitude are warmer in the former than they are in the latter. This is a valuable fact.

Humboldt has divided the northern hemisphere into six Isothermal bands or zones, viz.

1. The zone of mean annual temperature ranging from 32° to 41°.
2. . . . . from 41° to 50°.
3. . . . . from 50° to 59°.
4. . . . . from 59° to 68°.
5. . . . . from 68° to 77°.
6. . . . . from 77° upwards.

As an instance of the differences of temperature in different places in the same parallel of latitude, we may state that the Isothermal line of 32° ranges through a space of 14° or 15° of latitude, and that its western extremity, in the central parts of America, is 5° or 6° nearer the equator than its eastern extremity in Siberia, a striking illustration of the cold of the new continent. In proportion as they approach the equator, the Isothermal lines become less and less curved, so that the line of 77° differs but little from a straight line coincident with the tropic of cancer.

Isothermal lines are drawn from the mean temperature of the whole year; but it must be useful to ascertain the places in which the mean temperature of portions of the year are similar. Lines drawn through places with the same Summer and the same Winter temperatures are denominated Isotheral and Isocheimal lines. The following observations of Humboldt, on the actual distribution of temperature in the Northern Hemisphere, are usefully quoted by Dr. Prout. We cannot do better than extract them.

"'The whole of Europe (says Humboldt) compared with the eastern parts of America and Asia, has an insular climate; and upon the same Isothermal line the summers become warmer, and the winters colder, as we advance from the meridian of Mount Blanc towards the east or the west. Europe may be considered as the western prolongation of the old continent; and the western parts of all continents are not only warmer at equal latitudes than the eastern parts; but even in the zones of equal annual temperature, the winters are more rigorous and the summers hotter on the eastern coasts than on the western coasts of the two continents. The northern part of China, like the Atlantic region of the United States, exhibits seasons strongly contrasted; while the coasts of New California and the embouchure of the Columbia have winters and summers almost equally temperate. The meteorological constitution of those countries in the north-west resembles that of Europe as far as 50° or 52° of latitude. In comparing the two systems of climates, the concave and the convex summits of the same Isothermal lines, we find at New York the summer of Rome and the winter of Copenhagen; at Quebec, the summer of Oaris and the winter of St. Petersburg. At Pekin, also, where the mean temperature of the year is that of the coasts of Brittany, the scorching heats of summer are greater than at Cairo, and the winters are as rigorous as at Upsal. So also the same summer temperature prevails at Moscow, in the centre of Russia, as towards the mouths of the Loire, notwithstanding a difference of 11° of latitude; a fact that strikingly illustrates the effects of the earth's radiation on a vast continent deprived of mountains. This analogy between the eastern coasts of Asia and America sufficiently proves,' continues Humboldt, 'that the inequalities of the seasons depend on the prolongation and enlargement of continents towards the pole; on the size of seas in relation to their coasts; and on the frequency of the north-west winds, and not on the proximity of some plateau or elevation of the adjacent

lands. The great table lands of Asia do not stretch beyond 52° of latitude; and in the interior of the new continent, all the immense basin bounded by the Alleghany range, and the rocky mountains, is not more than from 656 to 920 feet above the level of the ocean.'" 217.

These statements are more explicitly detailed in an appendix to the present work, where Dr. Prout has inserted a table of temperatures, taken from the article Meteorology, in the Encyclopædia Metropolitana. We would almost wish to transfer the table to our pages, containing, as it does, information always useful to the medical practitioner. But we shall limit ourselves to selecting a few places, and stating their temperatures at various seasons.

At St. Petersburg, which is in the Isothermal zone of from 32° to 41°, and the latitude and longitude of which are 59° 56′ north, and 30° 19′ east, the mean annual temperature is 38·84. The mean temperature of the Winter is 17·06—of the Spring, 38·12—of the Summer, 62·06—of the Autumn, 38·66—of the *warmest* month, 65·66—and of the *coldest* month, 8·60. Thus, the range between the *mean* temperature of the warmest and the coldest months, at St. Petersburg, is 57·6.

At Moscow, the mean temperature of the year is 40·10—of the Winter, 10 · 78—of the Summer, 67 · 10—of the warmest month, 70 · 52—and of the coldest month, 6.08. The range at Moscow is extremely great—so much as 64 · 44, between the extreme *mean* temperatures. The most equable temperature, in this Isothermal zone, would seem to be at the North Cape, where the mean annual temperature is 32 · 00—the mean temperature of the warmest month, 46 · 58—of the coldest month, 22 · 10—the variation only 24 · 48.

In the next Isothermal zone, from 41° to 50°, we find, amongst other places, Quebec, Copenhagen, Dublin.

At Quebec, the mean temperature of the year is 41 · 74—of the Summer, 68 · 00—of the Winter, 14 · 18—of the warmest month, 73·40—of the coldest, 13 · 81. The range at Quebec is very nearly 60°.

At Copenhagen, the mean annual temperature is 45 · 68—the mean temperature of Winter, 30 · 74—of Summer, 62 · 60—of the hottest month, 65 · 66—of the coldest month, 27 · 14—the range, 38 · 12.

At Dublin, the mean annual temperature is 49 · 10—of Winter, 39 · 20—of Summer, 59 · 54—of the hottest month, 61 · 16—of the coldest, 35 · 42.

At the Malouine Islands, in the latitude of 51° 25′, the temperature is more equable than at any other place in this zone. Their mean annual temperature is 46 · 94—that of Winter, 39 · 56—that of Summer, 53 · 06—of the warmest month, 55 · 76—of the coldest, 37 · 40, the range being only 18 · 36.

In the Isothermal zone, from 50° to 59°, we will take Paris, London, and New York.

The mean temperature of Paris for the year is 51 · 08—of the Winter, 38 · 66—of the Summer, 64 · 58—of the hottest month, 65 · 30—of the coldest, 36 · 14—the variation, 29 · 16.

In London, the mean annual temperature is 50 . 36—of Winter, 39 · 56—of Summer, 63 · 14—of the hottest month, 64 · 40—of the coldest month, 37 · 76—the variation, 27 · 64. Thus, London is cooler than Paris in the Summer, warmer in the Winter, and exhibits a minor range of variations in temperature.

At New York, the mean annual temperature is 53·78—of Winter 29·84, (10 degrees below that of London,) of Summer 78.16, (16 degrees above that of London,)—of the hottest month, 80·78—of the coldest, 25·34, the range being 55·44.

The next Isothermal zone, from 59° to 68°, presents, amongst other places, Montpellier and Rome.

At Montpellier the mean temperature of the year is 59·36—of the Winter, 44·06—of the Summer, 75·74—of the warmest month, 78.08—of the coldest month, 42·08—the variation 36.

At Rome the mean temperature of the year is 60·44—of the Winter, 45·86—of the Summer, 75·20—of the warmest month, 77·00—of the coldest month, 42·26.

In the Isothermal zones from 68° to 77°, we have only Funchal and Algiers reported.

At Funchal, the mean temperature of the year is 68·54—of the Winter, 64·40—of the Summer, 72·50—of the warmest month, 75·56—of the coldest month, 64·04—the variation being only 11·52.

We will not extract the mean temperature of any places in the Isothermal zones above 77 degrees. We may simply observe, that the variations between the hottest and the coldest months are comparatively slight.

It is evident that, as a means of estimating the salubrity of places, *mean* temperatures are defective. The frequency and suddenness of changes of temperature must also be taken into the account. We may readily imagine that a place may have precisely the same mean temperatures as London, and yet those temperatures may be much more steady. The mischief of the English climate is its variability. As far as range of temperature goes, perhaps England is more favoured than any other country; but then the advantage is in a great measure lost by the capricious variations from wet to dry, and from hot to cold, that occur with the most astonishing rapidity.

Having considered the temperature of the globe, Dr. Prout proceeds to investigate the nature of climate. He admits the difficulty of determining the nature and force of the varied agencies that constitute in combination what we denominate climate, but he thinks that its numerous constituents may be naturally divided into two great sections, viz. *those of a* PRIMARY *kind depending upon the globular figure of the earth; upon its motion in its orbit, and upon its axis: and those of a* SECONDARY, *or subsidiary kind, more immediately connected with the globe itself, and depending upon the nature of its surface, as composed of land or water;* or, *as connected with its atmosphere.*

Dr. Prout accordingly considers in succession the temperature of the earth, as dependent on its globular form, and on its annual and diurnal motions, and the circumstances connected with the surface of the globe and with its atmosphere, that are capable of exerting an influence on climate. We cannot follow our author in the details, embracing as they do phenomena that belong to the science of natural philosophy. The most that we can do is to pick out here and there what may possibly amuse or instruct our readers.

They must be aware of the great discoveries that have been made by Mr. Faraday on the connexion between electricity and magnetism. Now Dr. Prout attempts to account for the magnetic directive property of the

earth, (that is, for the property which gives its polarity to the needle,) by its diurnal revolution on its axis from West to East. He is obliged to assume the existence of electric currents circulating within the earth from East to West in planes parallel to the magnetic equator. This is the passage in question.

"We have already alluded to the opinion that heat occasionally passes into the electric and magnetic energies; an opinion which some consider to derive much probability from the phenomena of what has been termed *thermo-electricity*; that is to say, electricity (and magnetism) developed by the unequal distribution of heat through bodies. Now, whether the phenomena of thermo-electricity actually depend on the decomposition of heat, latent or sensible, or upon any other cause, is of little importance; the phenomena themselves are well established, and they seem to account, in the most satisfactory manner, for the general distribution of electricity and magnetism over the earth. The explanation is this: the earth during its diurnal motion on its action from west to east, has its surface successively exposed to the solar rays in an opposite direction, or from east to west. The surface of the earth, therefore, particularly between the tropics, will be heated and cooled in succession, from east to west, and currents of electricity, on thermo-electric principles, will at the same time be established in the same direction: now these currents once established from east to west, will, of course, give occasion to the magnetism of the earth from north to south. Hence the magnetic directive power of the earth, in a direction nearly parallel with its axis, is derived from the thermo-electric currents, induced in its equatorial regions by the unequal distribution of heat there present, and depending principally on its diurnal motion." 233.

We do not profess ourselves competent to argue the probabilities of this theory. But we are quite certain that it is not proved, and that it is premature founding an argument upon it. Yet it seems impossible to conceive what *may* result from the researches now going on in electro-magnetism. We are possibly on the threshold only of our acquaintance with the phenomena of Nature.

Dr. Prout points out the benevolence displayed in the arrangement of colours, or rather in giving animals the perception of them. It is a great source of pleasure. Why should it have been, if not for the benignant purpose of occasioning gratification?

Perhaps it may not have occurred to many what consequences would have ensued had snow been dark, or had whiteness prevailed in the equatorial regions. In those regions, the solar heat and light, instead of being absorbed, would have been reflected, and the glare of light and accumulation of heat in the atmosphere contiguous to the surface, would have been incompatible with the existence of the present race of animals. The surface of the earth itself would have been heated slowly, but overheated at last, in consequence of its low radiating powers. Such would have been the case near the Equator, whilst at the Poles, all the little heat and light would have been absorbed. There must have reigned perpetual darkness, and the sudden melting of the snow on the least exposure to heat and light must have occasioned frequent inundations destructive to the inhabitants of other regions.

Dr. Prout devotes some pages to the propagation of heat below the earth's surface by conduction, and to the propagation of heat and light below the surface of the water. Perhaps the notice of a few facts connected with these subjects may not be disagreeable or uninstructive.

Though the surface of the earth, to the depth of some inches, participates in the fluctuations of the temperature of the atmosphere, yet at a certain distance from the superficies, a determinate stratum is found where the temperature is uniform, or nearly so, throughout the year. Dr. Prout remarks, that there is reason to believe that the temperature of this invariable stratum nearly coincides with the mean annual temperature of the place, and that its depth below the surface in different latitudes ranges between forty and eighty feet. It is chiefly on this circumstance that the uniformity of the temperature of cellars and caves depends. As an instance of the uniformity of temperature in such places, it may be mentioned, that a thermometer placed in the caves under the observatory in Paris, at a depth of about eighty-five feet below the surface, has, during fifty years, scarcely varied more than a quarter of a degree from 11 · 82 of the centigrade scale; equal very nearly to 53 1-4 of Fahrenheit. The mean annual temperature of Paris is 51 · 08.

Dr. Prout gives the results of a few experiments that have been made to determine the variation of the temperature throughout the year, at different depths from the surface down to the invariable stratum.

"In the month of August the temperature of the earth goes on decreasing in nearly a uniform manner, from a little below the surface to the stratum of invariable temperature. In the month of September the temperature is nearly uniform to fifteen or twenty feet below the surface; beyond which depth the temperature decreases a little and slowly to the stratum of invariable temperature. During the months of October and November the temperature increases from the surface to the depth of fifteen or twenty feet; and below this point it remains nearly uniform to the invariable stratum. During December, January, and February, the temperature, being at its minimum upon the surface, increases in a manner nearly uniform, downwards to the invariable stratum. During March and April there is a rapid decrease of temperature to the depth of one or two feet; below this depth the temperature decreases less rapidly; and still lower, the temperature increases a little. During the months of May, June and July, the temperature being at its maximum, at the surface, decreases downwards, but less rapidly and to a greater depth; it then begins to increase a little till it attains the temperature of the invariable stratum. The rapidity and degree, however, with which these changes take place, as well as the changes themselves, appear to fluctuate very considerably, not only in different places under the same Isothermal line, but in the same place in different seasons." 245.

The lateral propagation of heat through the solid parts of the earth is slight.

The propagation of heat and light through water must not long detain us. We shall merely mention one calculation with respect to light, and one fact with reference to heat. It has been calculated, then, that not a tenth part of the incident light can advance five fathoms downwards in the most translucent water; that even of vertical rays, one half is lost in the first seventeen feet, and that they become reduced to one-fourth by traversing thirty-four feet, which correspond to the mass of an atmosphere. It thus follows, that only the hundred-thousandth part of the vertical rays can penetrate below forty-seven fathoms, which is scarcely equal to the glimmer of twilight; and that the depths of the ocean must be always in perpetual darkness. The fact to which we adverted illustrates well the uniformity of temperature at

the bottom of deep lakes or inland seas. It has been found that the temperature of the water, at the bottoms of many of the lakes in Switzerland, often varies no more than 3° or 4°, while that of the surface exhibits a range of 20° to 30°.

We are interested professionally in being acquainted with the amount of differences of temperature, occasioned by the influence of land and water.

Far from the land, the diurnal changes of temperature of the air, near the surface of the sea, diminish. In the equatorial regions, the greatest difference between the temperature of the day and that of the night at sea, is said to amount to 3° or 4° only; while upon land the difference often amounts to 9° or 10°. In temperate regions, and particularly in latitudes extending from 25° to 50°, the difference between the maximum and the minimum diurnal range of the thermometer at sea is still very trifling, amounting only to 4° or 6°; while upon the continents, as for example at Paris, the range often amounts to 20° or 30°. Thus, insular climates are more equable than continental.

The minimum temperature is about sunrise—the maximum, at sea, about noon—on land, two or three hours after noon. It appears, from accurate and repeated observations, that even between the tropics, the temperature of the surface of the sea is higher than that of the incumbent atmosphere. Between the latitudes of 25 and 50 degrees, the air is rarely warmer than the surface of the sea; and in the Polar regions it is very unusual to find the air as warm as the sea; it is in fact almost always colder, and generally very much colder.

Dr. Prout occupies a considerable space in the consideration of the constitution and the laws that regulate the atmosphere. The details are far too exclusively philosophical for the pages of a practical medical journal. We cannot attempt to pursue the subject, and will merely refer to such points, here and there, as are connected with medical inquiries.

One such point is the quantity of rain that falls. There is much about both wind and rain to puzzle the *feelosophers*, as Mr. Cobbett called them. The disturbing circumstances are so numerous, as to interfere materially with a priori calculations. But one general fact appears to be made out, that the average quantity of rain that falls diminishes from the Equator to the Poles. Dr. Prout gives a table that illustrates, indeed proves this statement. We need not extract the whole table, for the following instances, taken from it, are sufficient.

At St. Petersburg, the annual fall of rain is 16 to 17 inches—at London, 20 to 25 inches—at Rome, 39 inches—at Vera Cruz, 63 inches—at Logane, St. Domingo, 150 inches.

In this country, Dr. Thomson has estimated that, taking the whole of Great Britain together, the mean fall of rain amounts in the course of a year to 36 inches, the dew being included (which is considered to amount to about four inches); and that the quantity of water evaporated is about 32 inches. The excess of four inches precipitated is supposed to feed the springs and rivers, while the same four inches must be evaporated from our surrounding seas. Yet all these calculations must be taken cum grano salis.

Dew, hoar frost, mists and fogs, snow and hail, appear upon our author's pages. We will not condense on our's all this moisture. Our readers might apply to us the words of Horace's famous ode—

Jam satis terris nivis atque diræ
Grandinis.

But, before we quit rain altogether, we may observe that more rain usually falls near the sea than in the sea—that in mountainous regions, more rain falls than on plains—that the rain chiefly falls at the foot of the mountain, and not upon its top—and, finally, that although less rain falls as we recede from the equator, the number of rainy days increases.

We may pass over the electricity of the atmosphere, and the decomposition of light effected in it; but we may, for an instant, pause to contemplate those peculiar atmospheric states occasioned by the presence of foreign bodies.

The air has been occasionally filled with minute vegetable matters, as lichens and other cryptogamous plants diffused in myriads through it, and sometimes colouring it red. This has given rise to the fabulous stories of *showers of blood*. Of meteoric stones we need say nothing, as Dr. Prout does not add to the stock of general knowledge, or rather ignorance, respecting their origin and nature. But sometimes a peculiar state of air has been observed, exerting a marked influence on the human constitution. In the years 1782 and 1783, a remarkable haze extended over the whole of Europe. This haze was of a pale blue colour. It was thickest at noon, when the sun appeared through it of a red colour. Rain did not in the least degree affect it. This haze is said to have possessed drying properties, and to have occasionally yielded a strong and peculiar odour. It is also said to have deposited in some places a viscid liquid, of an acrid taste, and of an unpleasant smell. About the same time, there were, in Calabria and in Iceland, terrible earthquakes, accompanied by volcanic eruptions. Simultaneously with this atmospheric condition, various epidemic diseases prevailed, particularly an epidemic catarrh, affecting not only man, but animals. Dr. Prout supposes it not improbable, that a minute quantity of some active agent, ejected by a volcanic eruption, and diffused throughout the air, may give, or may have given, rise to epidemic maladies. The following statement is curious, and we subjoin it in our author's words. It deserves, at all events, to be added to the circumstances attendant on the appearance or spreading of cholera, whether it was connected with it or not.

"As an instance of the presence of such bodies in the atmosphere, we may mention a very remarkable observation which occurred to the writer of this treatise during the late prevalence of epidemic cholera. He had for some years been occupied in investigations regarding the atmosphere; and for more than six weeks previously to the appearance of cholera in London, had almost every day been engaged in endeavouring to determine, with the utmost possible accuracy, the weight of a given quantity of air, under precisely the same circumstances of temperature and of pressure. On a particular day, the 9th of February, 1832, the weight of the air suddenly appeared to rise above the usual standard. As the rise was at the time supposed to be the result of some accidental error, or of some derangement in the apparatus employed; in order to discover its cause, the succeeding observations were made with the most rigid scrutiny. But no error or derangement whatever could be detected. On the days immediately following, the weight of the air still continued above the standard; though not quite so high as on the 9th of February, when the change was first noticed. The air retained its augmented weight during the whole time these experiments were carried on, namely, about six weeks longer. The increase of the weight of

the air observed in these experiments was small; but still decided and real. The method of conducting the experiments was such as not to allow of an error, at least to an amount so great as the additional weight, without the cause of that error having become apparent. There seems, therefore, to be only one mode of rationally explaining this increased weight of the air at London in February, 1832; which is, by admitting the diffusion of some gaseous body through the air of this city, considerably heavier than the air it displaced. About the 9th of February, the wind in London, which had previously been west, veered round to the east, and remained pretty steadily in that quarter till the end of the month. Now, precisely on the change of the wind, the first cases of epidemic cholera were reported in London; and from that time the disease continued to spread." 352.

Dr. Prout does not affirm that the cholera was actually occasioned by this peculiar state of atmosphere. But he seems to suspect that the two were, in some mysterious way, connected.

After noticing malaria, our author sums up his consideration of climate with a glance at the general arguments it furnishes in favour of Divine contrivance. We need not dwell on them, for those who have resisted the evidence adduced already, and so often, would seek, in metaphysical contradictions, a refuge against the testimony of even an angelic missionary. Gabriel himself could neither confute nor convince them. Let us leave the wretched atheist to live a practical solecism in nature—denying the design without which himself could never have blasphemed—refusing to believe in benevolence which mercifully permits him to escape the instant punishment of his impious mockery—and exerting the very faculties that raise him from the brute, to debase himself and his kind to its level. Let us leave this wretched creature to the comforts of his false philosophy, if philosophy that can be considered which opposes to common sense, and reason, and experience, a buckler of obdurate disbelief. A sceptic the atheist is not. He is a bigot, the most hardened and blind of any—who creates the power that grovelling he adores—and, substituting Nature for Nature's God, would transfer intelligence from the Divinity to the gases and the atoms of which his own putrescent carcase is composed. Poor fool! alike too little and too weak for the vengeance of his Maker, whom he libels, and of human kind that he disgraces. Poor fool! let us hope that the insignificance which escapes the thunderbolt now, may experience the same benignant forbearance hereafter.

The distribution of animals and plants on the surface of the globe is the last topic that occupies our author. We do not think it necessary to pursue him through his interesting but trite details, and we shall close the present article here. In our succeeding Number, we shall devote some pages to the concluding portion of the volume, that treats of the function of digestion. Yet we cannot part, though it be but for a season, from our able author, without recommending such of our readers as can afford the requisite time and means, to peruse the volume before us. It is not adapted for a systematic analysis in a journal such as this: but it *is* adapted to convey to the mind of the professional man, as of the general reader, much pleasing and some useful information. We now take our leave of Dr. Prout for the present.

I. REMARKS ON THE UNITY OF THE BODY, AS ILLUSTRATED BY SOME OF THE MORE STRIKING PHENOMENA OF SYMPATHY, BOTH MENTAL AND CORPOREAL; WITH A VIEW OF ENLARGING THE GROUNDS, AND IMPROVING THE APPLICATION OF THE CONSTITUTIONAL TREATMENT OF LOCAL DISEASES. By *George Macilwain*, M. R. C. S. Surgeon to the Finsbury Dispensary. Octavo, pp. 294. Highley, 1836.

II. (Retrospective) PRACTICAL OBSERVATIONS ON THE ACTIONS OF MORBID SYMPATHIES, AS INCLUDED IN THE PATHOLOGY OF CERTAIN DISEASES. By *Andrew Wilson*, M. D. (of Kelso.) Octavo, pp. 407. London, 1818.

The first work on our list is a course of lectures on SYMPATHY—a subject of great importance to the surgeon and the physician—if such an absurd division be still judged necessary. In this country, the doctrine of sympathy has engaged the attention, particularly, of Whytt, Monro, Wilson, (of Kelso), Alison, Abernethy, Charles Bell—and lastly, our present author. Haller, on the Continent, was the most distinguished writer on this intricate subject; and, in his time, many an abstruse theory was engendered and broached to explain the cause of this mysterious consent between distant as well as contiguous parts. There are some—perhaps many, who still deny that anatomy—that is to say, the communication of nerves—can explain the cause or the laws of sympathy. Even the ingenious and important discovery of Sir C. Bell will not satisfactorily account for the sympathies between distant parts—say the stomach and kidneys—by direct nervous communication. But still, when we reflect that impressions on every part of the body may, or rather *must* be transmitted to the brain—the common sensory—we cannot well come to any other conclusion than that the nervous system is, after all, the medium of communication, both in health and disease—even where no direct intercommunication of nerves can be traced by the anatomist.

A review of the very instructive work on "morbid sympathies," by Dr. Wilson, of Kelso, appeared in an early series of this Journal, (January, 1819,) which had then but a comparatively limited circulation, and is probably unknown to nine-tenths of our present readers. The original work had a still more limited circulation, and may be said to have fallen "still-born" from the press! Yet it is a valuable production, and we are induced to re-publish a brief analysis of it in this place. In the 6th volume of our analytical series (January 1827), will be found a full account of Dr. Alisons paper on this subject, published in the second volume of the Edinburgh Translations of the Medico-chirurgical Society. To this we may refer our present readers. The review was drawn up by a highly talented physician, now, alas, no more! On re-perusing it, we find some sentiments, with which we cannot entirely concur, but still we can point to it with pleasure, as the production of a lost and lamented contributor.

Mr. Macilwain is a disciple and admirer of Abernethy—and has imbibed many opinions of that talented but half-mad surgeon. From the following

passage it would appear that Mr. Macilwain does not attach any very great degree of importance to ANATOMY, as the means of elucidating sympathy.

"It cannot, perhaps, be denied, that anatomy has furnished some assistance in enquiring into the phenomena of Sympathy; but it is to be feared that more has been expected from it than it is capable of supplying; whilst, by engrossing too exclusive an attention, it may sometimes have closed more enlarged, and perhaps more promising avenues for investigation. In pointing out universal nervous communications, it suggests, a priori, the functional integrity of the body; in shewing identical tissues, arranged in different situations, and, in assisting our physiological conclusions as to individual organs, it facilitates the classification of phenomena; applied to the explanation of individual sympathies, it affords us little help: if it occasionally holds out promise in this way, it is but to allure us to disappointment.

The consideration of the eighth pair of nerves and its communications with the branches of the cervical ganglia of the sympathetic, and the sympathies of certain parts to which these are distributed; and the inadequacy of any application, I may say the absence of analogous facts, when we consider other sympathies no less remarkable, the uterus and stomach, for example—illustrate this remark.

We do not indeed expect anatomy to assist us in explaining the most marked sympathy of all; namely, that between mind and body; but its failure here is but typical of its competency to explain many *corporeal* phenomena. We shall probably obtain more advantage from a careful observation and notation of the phenomena which are daily unfolded to us; of the circumstances by which they are preceded, accompanied, or followed; and, when our facts shall have become multiplied, by examining how far we can establish that co-existence or sequence of any of them, which shall suggest the idea of a law, in the mode of their production." 11.

This is nearly the opinion of Dr. Wilson, as will be seen in the sequel; but still there can be little doubt that the nerves are the medium of communication, the brain itself being the vinculum.

Sympathies are natural or morbid. The *latter* are, no doubt, only perversions or modifications of the *former*. They are *reciprocal*, as between the head and stomach—stomach and bowels—skin and kidney. At other times they seem to act chiefly in one direction. The testicles will sympathise with the urethra, and the stomach with the testicle—but rarely in the opposite direction. Sympathetic affections are sometimes more prominent than the primary impressions—as when the head sympathises with the stomach or liver—the knee with the hip—or the shoulder with the liver. At other times the secondary effect is less strong than the original.

Our author divides sympathies into general and particular. The former is illustrated by "constitutional irritation," in which the whole system sympathises with all its parts. This, indeed, is the "*unity* of the body," which forms the chief feature of the title-page. The specific sympathies he divides according as they appear to be more or less influenced by function, structure, and other known or unknown circumstances.

As the work is in the form of lectures, and has been delivered to pupils, it contains a great deal of minute but common-place observations, which we cannot make use of in a review. There is no doubt, however, that the matter was well adapted to the audience, and very successful too.

The MUCOUS MEMBRANES present a chain of sympathies as well marked as any in the body. The different parts not only sympathise with each other,

but they sympathise with the skin in a very remarkable manner. Our author thinks, and probably with justice, that a great majority of cutaneous diseases are dependent on this sympathy. The following case is related in illustration of the sympathy existing among the fibrous structures.

"A poor boy, not very well clad, was sitting on a gate on a cold day, and he felt the wind blow on his thigh, which was quickly followed by a very acute pain in the same situation. He immediately went home, which he reached with difficulty, and on the second day his parents applied at the Dispensary. On examining his thigh it was neither red nor swollen, or very little, but extremely painful, and exquisitely tender on the slightest pressure. I told the gentlemen who accompanied me that I regarded it as an inflamation of the fascia. His health was much disordered, and his pulse indicated excitement with want of power Leeches were freely applied to the part, with fomentations and poultices; and he was seen again the next day. The limb was now swollen, but not discoloured, excessively painful, and exhibited an appearance which led me to remark, that had it been in a woman recently parturient, it would be called phlegmasia dolens. The treatment consisted of further local depletion and mercury; but the rapidly increasing depression of the system, which had been observed from the first, obliged us to relinquish the plan, and endeavour to support him by such means as seem likely not to produce excitement. Notwithstanding the most sedulous attention to the conflicting indications, he gradually sank. Examination discovered a very considerable thickening of the facia of the thigh, and of the cellular tissue: a moderate quantity of pus lay around and in the course of the femoral vein, which, on being laid open, was found also to contain pus, with considerable depositions of coagulable lymph." 22.

Tetanus and the spasm of rheumatism are adduced as exemplifying *muscular* sympathy. Voluntary muscles, however, are much less disposed to sympathise than the involuntary, The *serous* membranes, also evince much less of this consent, than the *mucous*. Affections, however, of the former spread with great rapidity, and preserve a striking similarity. This is seen in peritoneal inflammation, &c.

Sympathy of the cellular tissues seem to be in common with the part to whose structure it contributes, or in whose vicinity it occurs. Its sympathies, however, are more salutary than morbid—and may be referred to one principle—the limitation of disease.

In the functional division our author refers to the sympathies of different parts of the alimentary canal, as shewn, for instance, in disordered stomach from disease in the rectum. As to the skin and mucous membranes, the two largest absorbing surfaces, in the body, "their sympathies are familiar, constant, and reciprocal." Over the cutaneo-pulmonic, and cutaneo-renal sympathies we pass. Mr. M. dwells on the sympathy between the skin and the heart; but we think rather mchanically—if not unsuccessfully. The same may be said of his cardiaco-renal sympathy. That between the heart and lungs is, in a great measure, mechanical—as indeed our author acknowledges.

The fourth chapter is on "intermediate sympathy"—or sympathy not to be connected with either structure or function. We do not find in this chapter much to extract, or perhaps to approve. Mr. M. falls into the error which is daily immolating thousands in these isles—the idea that cough and even fatal phthisic are often occasioned by stomach and liver disorder. It is difficult, of course, to ascertain the original *causes* of disorders; but we

have, every day, reason to deplore the delusion of attributing cough and dyspnœa, and palpitation, nay, even copious purulent expectoration, to affections of the stomach and liver—thus overlooking the real, as well as obvious seat of the disease in the lungs! The oversight is now generally confined to those who dispute a physical or stethoscopic examination of the chest. What experienced pathological observer will concur with our author in the following sentiment?

"It is *not often* we see the lungs affected without more or less derangment of the liver; nor the liver materially disordered without oppression of the respiratory organs. Their mechanical relations exert considerable influence in exciting a mutual sympathetic recognition of disturbance." 70.

We fearlessly assert that the liver is not affected in one case out of 100 of pulmonic disease.

The gastro renal sympathy, Mr. M. thinks, takes place through the medium of the skin. The gastro-cardiac sympathy, he conceives to be produced through the medium of the brain. We apprehend that this sympathy is more direct than is imagined. We have watched it narrowly and painfully. Flatus in the stomach will frequently produce intermisision of the pulse, where the mind is intent on abstruse studies, and the intermission will instantly cease when the flatus has escaped.

In the sixth chapter, "on sympathy considered in its application to the history and treatment of disease," there are many judicious remarks, but not such as can be considered necessary to practitioners. They were very appropriate for a lecture-room. The chapter is interspersed with many practical cases of interest, from the Finsbury Dispensary. On mercurial abuses and diseases, our author is at home. The work winds up with an elaborate discourse vindicating his revered master, Mr. Abernethy, from the charge of materialism—or rather of confounding life with electricity. It is hardly necessary, at this time, to rip up these old matters. Let them rest quietly in the grave, or in oblivion. We may just quote one passage, however, which bears not very remotely on a subject which is now under discussion—the *natural* treatment of *fractures* without splints.

"Amongst the various misconstructions of Mr. Abernethy, it has been thought, that he disregarded local remedies; whereas he was fully acquainted with their just value. His treatment of susceptible surfaces, for example,—his mode of endeavouring to quiet local irritation, whilst he prosecuted his endeavours to tranquillize general disturbance, is another example of his attention to local matters, as it is of good surgery. In connexion with this, I may mention that no one could be more particular than he was, in keeping diseased joints motionless, by splints: a practice of great importance, and recently recommended by Sir Benjamin Brodie; but apparently without being aware of the fact I have just stated—as Mr. Abernethy is not mentioned." 272.

Now a fracture is a kind of diseased joint, *pro tempore*, and requires, in our humble apprehension, to be secure from motion, just as much as a knee with ulcerated cartilages—Mr. Radley to the contrary notwithstanding. There is an ingenious tabular arrangement—or attempt at such—of the various sympathies; but we fear that much additional observation is necessary before any tabular form can be depended on. Nevertheless we believe it to be as perfect as the present state of our knowledge will sanction. We recommend this work to junior practitioners, rather than to

students; for, as things go, the latter have quite enough on their hands, without entangling themselves in the inextricable web of sympathies. By the way, our author might have introduced a new species of sympathy, peculiar to students—the vinculum being situated near Blackfriars!

In various parts of this Journal, but particularly in our review of Dr. Parry's Elements of Pathology, we took occasion to protest against the rage for tracing diseases almost exclusively to *vascular* derangement, and overlooking the morbid movements or state of the *nervous* system. The longer we live, the more we see, and the deeper we study, so much the more are we convinced, that not only are the *primary impressions* of morbific causes sustained by the *sentient* system of the human fabric, but that it is in *this* system the primary morbid *movements* first begin, and are thence propagated to the *vascular* system; which, from that moment, re-acts upon, and is again influenced by, the nervous system. We never shall have a sound pathology or successful practice, while any one of these two systems is studied in preference to the other; or, while they are considered as unlinked in perpetual reciprocity of action. Under this conviction, we shall give every possible publicity to the labours of those observers of Nature, who are exploring this interesting subject; and we could not have a better opportunity than in the analysis of Dr. Wilson's volume—a work which is characterized by deep thought, solid judgment, and accurate observation.

Dr. W. justly observes, that the laws of morbid sympathies are often very demonstrable to the senses, "and may be reasoned on in diagnostics with the utmost propriety, and considered as steady principles to be acted upon."

"We know, for instance, that certain irritating matter contained in the stomach, will very commonly produce a headache; but knowing also the universal influence which the stomach exercises over the whole human frame, if a person becomes affected with pain, &c. in a distant part of the body, in a limb, for instance, without any occasional cause having been applied, attended at the same time, with certain signs of a loaded stomach, reasoning from the above facts, we readily believe that if irritation in the stomach can produce pain in the forehead, it may, at any other time, produce pain in any other distant part also. It is a fair enough inference, therefore, that, in this case likewise, the primary disease is seated in the stomach, and is a cause of pain in the limb by an act of morbid sympathy." 8.

The brain and its appendages, indeed, being the medium through which the living principle acts upon the otherwise inert organic structure, as also the medium through which the mind is made conscious of injurious applications offered to any part of the machine, it may properly be said that every part of the human body is capable of sympathising with the rest; because we see that no part of it can admit of having the sense of feeling excited to the height of pain, without the whole frame being deranged in sensibility.* There are, however, specific sympathies, which are so common in their oc-

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* This sentiment of Dr. Wilson anticipates and includes the "unity of the body," so much insisted on by Mr. Macilwain. We apprehend, indeed, that Mr. M. had overlooked the work of Dr. Wilson, and probably did not advert with attention to the able paper of Dr. Alison, reviewed in our Journal of Jan. 1827. *Eds.* 1836.

currence, as to be noticed as things of course; as, for instance, the gastro-cerebral, the cutaneo-gastric, and the utero-gastric sympathies.

These morbid sympathetic impressions on distant organs or parts are sometimes attended with pain, and sometimes not. In the *latter* case, the original irritation only increases or decreases the excitement in the sympathising structure. Thus we see the *vascular* system sometimes thrown into *inordinate* action by acrimonious irritation in the alimentary canal; at other times the action of the heart is almost suspended by the application of offensive substances to the nerves of the stomach. But when the sympathetic irritation arises to the degree of *spasm*, which, in fact, is only the highest degree of contractile action, in a muscular or fibrous structure, then we have *pain*.

"Wherever, therefore, muscular fibres exist, morbid spasm may also exist; consequently, not only the fibres of large muscles, but the smallest fibrous threads of all the membranous parts, are also susceptible of spasm, from irritation, applied either directly or indirectly from morbid sympathy.

It is further to be observed, that although the most violent spasms of large muscles are seldom, if ever, succeeded by local inflamation, as is instanced in epilepsy, hysteria, &c.; yet, when the muscular texture of a membrane becomes the seat of a sympathetic spasm, *local inflammation of that membrane is speedily induced, the coats of its capillary vessels being probably also soon included in the sympathetic influence.*" 22

This is an important doctrine, which is ever to be borne in mind by those who separate spasm from inflammation, and never dream of the *latter* when they have to combat the former.

With regard to the vinculum, as Dr. W. justly observes, connecting the sympathising part with that where the irritation is applied, we remain totally in the dark; and, therefore, all we have in our power on this point is, by careful observation to mark demonstrable facts; and these, by candid induction, ought to lead to correct practice.

The extensive influence which a healthy or diseased state of the digestive organs, and of the stomach in particular, exercises over the whole human frame, mental and corporeal, has long been, and still continues to be, the subject of observation and wonder among pathologists. When, indeed, we consider that the mucous membrane, stretching from the mouth to the anus, and lining so many important hollow viscera, is a secreting surface, studded with innumerable nervous or sentient papillæ, and exposed daily to a mass of heterogeneous and stimulating matters, as well what is poured in, in the shape of food and drink, as poured fourth from the mucous glands themselves, in the shape of morbid secretion, it is not to be wondered at that the primæ viæ are the seat of most of those primary irritations which are productive of disease. The morbid sympathies which subsist between the stomach and various distant parts are doubtless reciprocal: but those which radiate *from* the gastric centre, would appear to be more powerful than those which are propagated from distant parts to it. It must also be remembered, as was hinted before, that irritation in the fibrous structures of the membranes lining the hollow viscera, and entering into the composition of joints, &c. will induce first spasmodic action; and whenever this arrives at a certain height, inflammation in the structures under consideration. This local inflammatory movement will soon draw the heart and vascular system into increased

action, by morbid sympathy—and thus a febrile state is induced. The following passage from Dr. Wilson depicts precisely our own sentiments, and accords with our own practice and experience.

"In fact, the operation of the *laws of sympathy*, through the nervous influence on the living system, is a thing demonstrable to the senses; and any theories which I have ventured to offer on this pathology, are very nearly as much so to an unbiassed mind. At least, this I will assert for myself, that to my conception, they approach far nearer to the certainty of demonstration, than any other pathology I have met with on the same subjects, and have served to *direct my own practice*, in a satisfactory manner, through a mist of insulated facts and general assertions; while every additional year's experience has served more and more to strengthen my opinions." 36.

We believe that Darwin, the great father of the sympathetic doctrines of modern times, was the most *successful* practitioner that England or the world ever produced. There was scarcely a town on the Continent of Europe from whence he was not consulted, either personally or by letter; and we have it from good authority, that his success was mainly owing to the *multiplied resources* which the sympathetic views of disease opened out to him. In our own practice, for many years past, we have had good reason for pursuing the doctrines and practices of Darwin; and we seriously recommend them to the rising generation, who are not yet so blinded by prejudice or pride, as to be beyond the reception of any thing in the shape of advice from others.

In the fourth Letter, our author enters on the consideration of febrile diseases. He considers that "a permanently-increased action of the heart and arteries" is a *sine qua non* in fever, no other phenomenon being invariably present. We think, however, that a *deranged action* of the heart and arteries is a more permanent symptom in fever, than an *increased* action; but we shall not cavil about definitions. It is of more consequence to bear in mind, that this increased (deranged) action of the heart and arteries may arise

"From irritation, applied to the nerves of some distant part of the body, between which and the vascular system a primary affinity subsists, exciting that system into violent action by morbid sympathy; or from the effects of something of an irritating nature having been received into, and circulated with the blood, and thereby directly applied to the internal surface of the heart and bloodvessels themselves. But the establishment of a febrile state of the system, as derived from remote causes within the body, appears very demonstrable to acknowledge the following primary distinctions:

1st. As derived from the effect of acrid matter applied to some department of the nervous system, and exciting a morbid action of the heart and arteries by morbid sympathy; but such a remote cause, experience shows, is most commonly seated in the digestive organs.

2d. As derived from the effects of irritation, arising from organic obstruction, somewhere existing in the body, and exciting increased action of the heart and arteries by morbid sympathy.

3d. As derived from the effects of something of an irritating nature received into, and circulated with the blood.

4th. As derived from passions of the mind, exciting an increased action of the vascular system, by morbid sympathy.

5th. As derived from two or more of these primary causes of fever acting at the same time." 43.

Our author candidly acknowledges that we are totally ignorant why gastric irritation should in one person excite the vascular system, and in another the voluntary muscular system; but we are certain that such is the fact. Dr. W. then proceeds to the consideration of gastric fever, as the most common, and, at the same time, the most simple form of fever. He considers the irritation in the stomach as propagated, by morbid sympathy, to the heart and arteries. In this species of fever, the first signs of any departure from health are of that kind which points out impaired action and morbid irritation of the digestive organs, as is evinced by the precursory phenomena of diminished appetite—weight at the præcordia—abdominal distention—thirst—parched mouth, and furred tongue. To these are commonly added, signs of impaired and irregular action in the nervous system, arising from morbid sympathies with the primæ viæ, in such as languor, disturbed sleep, headache, dry skin flushings and chills. This is the prevailing fever of infantile years; and, if taken in time, may soon be checked, merely by the ejection of the source of irritation from the primæ viæ; another proof of the truth of the doctrine in question.

The two great indications, then, in gastric fever are, the evacuation of the morbid secretions from the line of the alimentary canal, and the reduction of morbid temperature on the surface. Dr. W. here takes occasion to object to the unreasonable prejudices which has lately existed against emetics in this country, chiefly engendered, we conceived, by their deleterious effects in the hotter regions of the earth, where the gastric and biliary systems are ordidinarily in a state of irritability, which is greatly exasperated in the fevers of those climates, and of course where emetics are improper. But in this country it is very different, and physicians lose a powerful febrifuge by the disuse of emetic tartar in particular.

"Nor are anatomical emetics attended by any hazard, nor even by more severe nausea than ipecacun, unless it happens by an over-dose, or by mismanagement during its operation. One grain of ant. tart. for an adult, will generally nauseate the stomach in half an hour; when, without waiting longer, the stomach should be distended by drinking warm water, and vomiting is produced by irritating the fauces a little with a feather. One half-glass of wine after every fit of vomiting will assist its operation." "It is by a prudent and free administration, then, of anatomical emetics, along with mercurial laxatives, assisted by the neutral salts, that the first and great indication of cure is here to be accomplished." 60.

The Doctor takes this opportunity of expressing his opinion, that the *debility* in these fevers is only apparent, not real; and of course to be removed or prevented by evacuations, which take off the load from the spring of life. He justly remarks, that mere *aperients* will not do; but that very free evacuations are always necessary, procured by the help of the most active *purgatives*, administered in appropriate doses; remarking the nature of what comes off, till it puts on a healthy appearance, a circumstance which usually attends a solution of the fever, with its accompanying train of symptoms."

Our author next turns to the consideration of fever, as dependent on "idiophatic organic obstruction;" viz. topical inflammations, from whatever occasional source they may be derived, as local stimuli, wounds, bruises, &c.

"The application of excessive cold, or of burning heat, &c. forming obstruc-

tions in the capillary vessels of the vascular system, and exhibiting what is designed local inflammation; from whence, by a sympathetic affinity, the heart and arteries are drawn into violent action, and it thereby becomes a primary cause of fever." 71.

After some ingenious remarks on the nature of the topical inflammation itself, in which he concludes that the obstruction to the free stream of blood is seated in the capillary extremities of the veins, our author observes, that, with respect to the *treatment* of fever in these cases,—

"Large and general bleedings, as also topical bleeding, whenever it can be applied, are perhaps the most powerful means; and along with these, aperient medicines. But, whenever an acting morbid cause is observed to exist in the digestive organs, a free discharge from these, *by the most active evacuants*, is a measure of great importance, from the mutual sympathy betwixt the stomach and every part of the body. As to external applications, I have always observed tepid fomentations to be the most useful, and the most soothing to the patient's feelings." 80.

The ratio symptomatum, and pathology of typhus are next descanted on by our author, with much ingenuity and acuteness; and, although we cannot agree with him on all points here, particularly in his opinion that the gastric and biliary secretions are greatly *increased* at the beginning of typhus, yet his doctrines all tend to support the propriety of the depletory or antistimulant plan of treatment now superseding the Brunonian mania. Dr. W. believes, and we unite our suffrage to his, that cinchona stops the paroxysms of an ague, not through the medium of the circulation, but by its tonic, and perhaps sedative effects on the nerves of the stomach. Indeed, it is only in this way that the salutary operation of several other remedies in intermittent fever can be accounted for.

In respect to our author's *methodus medendi*, we think it is not quite energetic enough; though, probably, in the part where he resides, and where fevers are not like to assume the graver types, the practice may be good enough.

Dr. Wilson's long chain of reasoning on influenza we must pass over, in order to pay some attention to his opinions on acute rheumatism. Here the sceptics of the day will be ready to say, that Dr. W. far outstrips our illustrious London pathologist, Mr. Abernethy, in attributing a variety of diseases to derangment of the *digestive organs*. Although we are not disposed to go the lengths of either Dr. W. or Mr. Abernethy, on this subject, yet we are convinced that there is much truth and justice in the doctrines of both these gentlemen.

"Acute rheumatism (says Dr. W.) in its progress, appears to include two stages of diseases; the first of which is *gastric fever*, attended by a painful state of the membranes surrounding certain joints, excited by a spasmodic affection fixed on them. in consequence of morbid sympathy, with irritation in the primæ viae. The second stage is formed by an inflamed state of these membranes, created by the continued action of the same sympathetic affinity, which inflammation is occasionally so considerable as to produce effusions in the cellular membrane, and even the bones of the articulation becomes sometime inflamed, eventually giving rise to anchylosis, and other diseases of the joints." 221.

On these principles, Dr. Wilson employs liberal evacuations from the primæ viæ, especially by calomel and antimony, aided occasionally by the

neutral salts, particularly the tartaric potass, or phosphate of soda, "till the signs of a loaded state of the digestive organs shall disappear, or at least shall have greatly abated. Anodynes, which have the effect of superseding spasm, and of procuring a state of rest, are useful from the beginning; but their usefulness is most eminent after the primary irritation is lessened."*

Our author employs bark and steel, when the febrile state is subsided. For the local inflammation, he trusts principally to topical bleedings and fomentations, "a little more than blood warm." He also recommends warm anodyne poultices, composed of the common forms, with opium or cicuta added. He is an advocate for calomel and opium in acute rheumatism.

From this disease, the transition to gout is easy. Our author not only supports the idea of a strong affinity between gout and rheumatism, but comes to the conclusion that both diseases mainly depend on derangement in the digestive organs.

"In contemplating the above premises, it is obvious that there appears no other demonstrable cause of vascular excitement, but that which by unequivocal signs, is shewn to exist in the digestive organs; therefore, this unavoidable conclusion is likewise obvious, that the febrile paroxysm excited in the attack of a fit of gout must be viewed as real gastric fever; and further, that any other suppositious principle, as inherent in the system, but which is undemonstrable as a primary agent, or remote cause of the disease, may fairly be esteemed as imaginary."

This doctrine, indeed, is very little different from that inculated in some of the latest and best works on gout. In respect to the treatment, Dr. W. justly observes, that over the predisposition or idiosyncrasy of the patient, medicine has little control; yet many of the inordinate movements in gout may be soothed and moderated—"especially by evacuations from the stomach and bowels."—Dr. W. considers, also, that such medicines as act upon the skin are extremely beneficial; as the liq. ant. tart. and tinct. opii, accompanied with diluting drinks. The acetate of ammonia, also, given in tepid drinks, is useful for the same purpose. In respect to local applications, "the tepid warmth of an emollient poultice, void of every kind of acrimony, is the most suitable; or, tepid emollient fomentations, covering the parts aftewards with warm flannel. To these may be added, topical bleeding with leeches."

In the intervals of the paroxysms, Dr. W. recommends the greatest attention to the state of the stomach and bowels, particularly by laxative medicines.

"Of the last, calomel is the most efficient, and ought to form the chief basis of the measures taken for clearing the lower intestines, accompanied with the occasional use of some saline purge."

Emetics, he thinks, are valuable remedies in the remissions of the disease. He condemns the external application of cold, lest "some other organs" which may be next in sympathetic affinity with the seat of irritation, become affected with its influence; and if this shall happen to be any vital organ, the result may be fatal."

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* Dr. W. was probably unacquainted with the virtues of cholcicum at the time he wrote.—*Eds.* 1836.

Dr. W. next proceeds to draw a parallel between gout and erysipelas—a parallel which has been very fully drawn by the continental physicians.

"A gentleman has had an ulcer on his leg for many years. Along with the ulcerated leg, he is, at the same time subject to bilious accumulations in the primæ viæ; but these accumulations seldom occur without producing a febrile paroxysm, attended by extensive erysipelas around the ulcer; under the influence of which he has occasionally laboured for two weeks at a time, but without any medical aid, further than what he derived from some gentle aperient medicine to preserve his bowels soft. At last, when under one of these feverish fits, he was persuaded to take, though reluctantly, an antimonial emetic, and even to repeat it, followed with a mercurial laxative; by which means he threw off a great quantity of offensive bilious fluid, after which the inflammation and fever very quickly abated. Since this time, as the ulcer on his leg still remains, and continuing still subject to bilious complaints, he has become aware of the approaching illness; and being now convinced of the benefit attending this practice, he has, by seasonable evacuation, saved himself from many a fit of fever and erysipelas." 376.

Dr. W. observes that irritating matters, and consequently irritatation, cannot be expected to be removed from the long line of the digestive organs by a few evacuations, whether of the emetic or cathartic class. Part of the offending matter will often lurk in the duodenum, or some of the sinuosities of the other intestines, while the ordinary discharges by the rectum are suffered to pass along. Additional morbid secretions may also be collected anew—

"Therefore the evacuations ought to be persevered in till the signs of irritation in the stomach shall disappear, and till the discharges from the rectum shall assume a healthy aspect; otherwise the portion of vitiated matter which is retained, will assuredly tend to prolong the disease, and disappoint expectations." 379.

Angina Pectoris.. Dr. Wilson thinks that post-mortem researches "have offered no certain information, nor discovered any organic disease within the thorax, which might be referred to as the direct cause of its symptoms." Here we cannot coincide with our author. The Histories and Dissections of Dr. Parry, and cases which have since been published, afford very satisfactory evidence that all the symptoms of angina pectoris have *sometimes* resulted from organic disease. We are ready to admit, however, that all the phenomena of syncope anginosa have *also* occurred, and terminated even in death, without any disease of structure being cognizable to the senses. This must lead unbiassed minds to the conclusion, that it is sometimes a disease of structure, giving rise to periodical lesion of function—and, at others, only a derangement of *function* in the respiratory and circulating organs, leaving no perceptible trace of its previous existence after the thread of life is snapped. In the latter cases, we can only suppose it to be of a spasmodic nature, resulting from arthritic or rheumatic irritation misplaced, and not yet amounting to ostensible organic change in any tissue or vessel. It is in this light that our author views it, and we shall present his ideas on the subject.

"In the course of my own experience, I have seen but a few cases of this kind; but from my observations on these few, I have uniformly discovered, that at the commencement of the disease, the digestive organs were in a loaded state; as also, from farther inquiry that they had previously been so. But from

considering the strong disposition to sympathetic action which subsists, in some individuals, betwixt those organs and the heart, as well as other organs within the thorax, together with a general review of the predominant symptoms, I cannot avoid drawing this inference, that angina pectoris is a disease which also arises from a morbid sympathy, with a primary cause seated in the primæ viæ." 385.

With respect to the particular seat of the spasm, Dr. W. thinks, that it is doubtless either in the heart itself, or the adjoining great blood vessels, or perhaps in both at the same time; he also thinks that, from the fixed severe pain under the sternum, a little to the left side, and, at times, quite across to the back, the mediastinum may be very materially included in the spasmodic affection, perhaps in a primary manner, as in arthritic or rheumatic translations. It is certain, indeed, that angina pectoris chiefly attacks those of a gouty or rheumatic character. We shall introduce an interesting case in elucidation.

"April 18th, 1777. Mrs. ———, aged 50 years, complains of an intolerably severe stricture extending quite across her breast, attended by a severe pain under the middle of the sternum, which communicates itself to both her arms in a violent manner, but confined to a spot about the middle of the humerus; accompanied with a feeling of suffocation, and a most irregular, soft, intermitting pulse. In this state she continues for the space of ten or fifteen minutes, when the symptoms gradually abate, and she feels free from any complaint, excepting weakness, her spirits being much exhausted. Her appetite for food is impaired; her tongue much furred with thirst; bad taste in her mouth; weight at the præcordia, and restless nights; her pulse, excepting when under the fit, being natural. She is of a spare habit, and subject to atonic rheumatism in her arms and limbs, and has been repeatedly affected with violent periodical headaches; she has been complaining in this way for some days. At first, the fits returned twice or thrice in the twenty-four hours with unequal violence; but she feels them increasing in frequency as well as in violence, and now a recumbent posture is certain of producing them at any time.

She had, on some former occasion, been alarmed by the severe operation of an emetic, and I found, at present, that her aversion to it could not, as yet, be conquered. I was on that account left to the effect of laxatives alone, for the purpose of clearing out her stomach and bowels. These were accompanied with opiates and a blister on her breast. The first cathartic dose produced some bilious stools; and a repetition of it every morning, with a powerful opiate, three times daily, had the effect to mitigate the violence of the disease for a few days; after which it returned with increased violence, both in length and frequency of the fits, accompanied with faintness; her pulse was extremely confused, and she described her feelings of anguish as intolerable. She had now been out of bed eight nights and days, because any attempt at a reclining posture was certain of producing a paroxysm; on which account she was compelled to spend the whole of her time in her chair, and notwithstanding the opiates, she slept very little. I now at last prevailed on her to use an emetic of ant. tart. and she discharged a great quantity of acrid, bilious-coloured fluid. On the succeeding night she enjoyed more sleep, but still could not bear a lying posture. On the 27th the fits less severe, and less frequent; she continues the opiates, and on the 28th, took a laxative dose. On the 29th relapsed and took another emetic; threw up much bile, and was again relieved.

May 2d, took another emetic yesterday, and has had no fit for twenty-four hours—can sleep in bed. May 4th, has had some slight returns yesterday, and repeated the emetic; discharged more offensive bilious fluid, and is better. May 10th, continues better; her tongue is clean, and other signs of a loaded sto-

mach, &c. gone off. May 29th, has taken stomachic bitters, with the daily use of aperient pills; and by the help of moderate exercise, and restorative diet, remains quite well. She had afterwards repeated slighter attacks of the same complaints, which were always removed by a discharge of offensive matter from the intestinal canal, procured by the same means, and died at last of another disease in the year 1790." 390.

Finally, our author is convinced, from a careful attention to the phenomena of croup, that the primary seat of irritation is in the digestive organs, whence is generated, by morbid sympathy, a spasmodic affection of the glottis, ending in inflamation of the mucous membrane of the larnyx and trachea, ultimately destroying the action of the lungs, by rendering them impervious. Acting from these premises, Dr. Wilson asserts, that our great indication is to clear the stomach and alimentary canal, as early as possible, by emetics and mercurial cathartics.

Indeed, I believe these medicines to be the most efficient means hitherto known of speedily and effectually accomplishing, on any occasion, this important object." 409.

This plan will often, he thinks, check the disease in its nascent movements, and before actual inflammation has commenced; but we believe that such nascent movements, or, in other words, the *spasmodic* stage, is rarely witnessed by medical men: and, consequently, it is against the inflammation and exudation from the surface of the mucous membrane that we have principally to guard. Hence, while we take every opportunity of acting on the alimentary canal by emetics and calomel, we must detract blood from the throat, and counter-irritate in the neighborhood, with all possible expedition and energy.

We have now presented a full analysis of Dr. Wilson's work. Its greatest fault, or, more correctly speaking, its misfortune, is the diffuseness of the style. In one fourth part of the space, he might have given the same matter in an infinitely stronger point of view. Indeed, *medical economy* in medical literature is too much neglected. We are fully convinced, that the man who endeavors to diffuse professional knowledge on the easiest terms will, in the end, be the greatest benefactor to medical society. The higher classes have not time to peruse, and the inferior orders have not money to purchase, voluminous publications; and hence the stream of science flows in narrow and extremely confined channels. We could illustrate this fact by anecdotes, which would be scarcely credited by the well-informed readers of the profession, but which are strictly true. We were lately in conversation with one of the first-rate medical practitioners in the greatest city of the world, who neither knew the name nor any part of the writings of one of the greatest ornaments of medical science at the present period! It would be equally mortifying and discouraging to the really zealous cultivators of medical science, if they knew the narrow limits in which their labours move. It is true that medical works take a large *circuit*, in consequence of medical clubs and societies; but the *actual readers* are few indeed!

This, in some degree is owing to the expansion of little matter into large space, and to the consequent expence of purchase; so, that, comparatively speaking, medical writings are little known, excepting through the medium of Journals.

THE GANGLIONIC SYSTEM.

I. RECHERCHES EXPERIMENTALES SUR LES FONCTIONS DU SYSTEME NERVEUX GANGLIONAIRE ET SUR LEUR APPLICATION A LA PATHOLOGIE. Par. *J. L. Brachet.*

II. DE NERVI SYMPATHETCI HUMANI FABRICA, USU, ET MORBIS COMMENTATIO ANATOMICO-PHYSIOLOGICO-PATHOLOGICA. TABULIS ÆNEIS ET LITHOGRAPHICIS ILLUSTRATA. Auctore *Joh. Frid. Lobstein*, Medicinæ Clinices et Anatomicæ Pathologicæ in Facultate Medica Argentoratensi Professore, &c. &c. &c.

EXPERIMENTAL RESEARCHES ON THE FUNCTIONS OF THE GANGLIOMIC NERVOUS SYSTEM, &c. &c. By *J. L. Brachet*, Paris, 1834.

AN ANATOMICAL, PHYSIOLOGICAL, AND PATHOLOGICAL ESSAY ON THE STRUCTURE, USE, AND DISEASES OF THE SYMPATHETIC NERVE. By *J. Frid. Lobstein.*

WE here continue the analysis of the first of the above works from our last number. In preparing the analysis, we happened to alight upon the work of M. Lobstein, on the same subject. The great scarcity of this book, and the high character of its author, will, we trust be a sufficient apology for our introducing entire a work, which has now been some years published—we do not, however, remember to have seen any analysis of it in any of the periodicals of this country.

M. Brachet next considers the influence of the ganglionic system of nerves on the *action of the stomach.* As in the case of the lungs, he considers the different operations of the stomach, and what influence each species of nerves exercises on it. Three acts depend on the stomach; 1st, the desire of food, or the sensation of hunger; 2dly, the chemico-vital action of the gastric juices on the alimentary mass, or chymification; 3dly, the peristaltic or antiperistaltic action of the stomach on the alimentary mass, so as to present all the parts of it in succession to its chymifying surface, and then to expel it.

And first, with respect to the feeling of hunger; it is a sensation, obviously a nervous sensation. The want of food is felt, and this feeling or sensation can be transmitted to the brain only by means of nerves. The sensation of uneasiness experienced in the epigastric region shews the seat of it to be there; the grateful feeling which immediately succeeds the ingestion of aliments, proves that it is the stomach which is the seat of it, and that the other phenomena are but sympathetic, since they disappear even before digestion has commenced. Is it the pneumogastric nerve which transmits the sensation? or the filaments of the trisplanchnic? Our author instituted some experiments in order to solve this problem. In the first he made a spaniel dog fast for twenty four hours, until it seemed to be devoured

with hunger. He then divided the eighth pair below the origin of the recurrent nerves. The animal being untied and left to inself, lay down, and did not seek for any thing to eat, the respiration was free, though a little slow. He then gave it some meat cut into small bits: this he ate, though without seeking for it. The animal continued, till he was unable to swallow more in consequence of the œsophagus being full.

In his next experiment he kept two cabias fasting for eighteen hours. The animals looked for food in every direction; they raised their heads, and uttered cries indicating the hunger which they felt. He then removed a portion of the two cords of the eighth pair, adopting the precaution of making an opening in the trachea; he then filled their trough with crumb of bread, a kind of food which they had previously appeared to eat with the greatest avidity: they lay down without taking any notice of it; he then put the trough under their nose; they began to eat, but with a sort of indifference. He then removed the trough from them: they did not stir, though they had but six inches to run in order to reach it. He then gave them, in separate pieces, as much bread as they wished, or rather, as much as they were able to eat for they never stopped, till deglutition became impossible. They eat because the food was before them, and their mouth still refused the taste of it: hunger did not seem to have any influence on their doing so, since they no longer evinced a desire to eat, from the moment the nervi vagi were divided. From these experiments, the author very naturally deduces the conclusion, that the pneumo-gastric nerves are the organs which transmit the sensations of hunger and satiety. In support of this conclusion, he adduces the authority of Valsalva, Baglivi, Legallois, and Professor Dupuy of Alfort, who observed the same results. That such is a function of the pneumogastric nerves, the following considerations render undeniable. Since the animal continues to eat after the stomach is full, even after the œsophagus is gorged with food, it follows, that it is no longer conscious of this fullness, or, in other words, the sensation of satiety is abolished. Now, in these experiments the eighth pair of nerves was divided; it must have been it then which, previously, used to transmit to the animal the sensation of satiety, and which made it refuse food, when no longer necessary. Our author here mentions what he perhaps very fairly conceives to be a case in point—it was a living bicephalous female child, seven months old, which he was just after seeing. It had but two legs, and one abdomen; but its chest was broad and bifurcated superiorly, so as to afford insertions to the four arms in their respective places. The two heads had each a separate and independent life. Though the abdomen was single, our author felt satisfied that there were two stomachs, one for each infant, and gives the following reason for his thinking so:—One of these infants sucks its mother, the other its nurse. He made one of them suck till it was satiated, the other instantly took its nurse's breast, and sucked very greedily. If there were but one stomach for the two children, when it became full, no matter by which of their mouths, both would have been satisfied; if the one infant was hungry, whilst the other felt satiated, there must be two stomachs. Though the validity of the author's conclusion, with respect to the function of the pneumo-gastric nerves, is not at all affected by the fact of there being only one or of there being two stomachs in this bicephalous monster, still we do not feel warranted in agreeing with him that there must have been two, and our

reasons are these; in the first place, there was but one abdomen, of the natural size, not like the chest, which was, as our author tells us, very broad superiorly, in order to afford space for the insertion of the double pair of arms. From this we feel disposed to think that, if there were two stomachs, there would be some indication of it in the enlarged size of the abdomen.

Again, our author's reason for being satisfied that there were two stomachs, appears to us any thing but satisfactory. He says, if there were but one stomach, when that was filled, both would have been satisfied. As we know that the seat of the sensation of satiety is in the brain only, the pneumogastric nerve being but the conductor of the sensation, and not its seat, we can, without much difficulty, conceive that the impression of satiety conveyed by the pneumogastric nerves to one brain, need not necessarily be conveyed to the other. In fact, though there may have been but one digestive apparatus allotted to the monstrosity, still the fact of there being two brains, satisfies us that there were two persons in question, and consequently that what would please, displease, or satisfy one of the young ladies, might not exactly please, displease, or satisfy the other. What we mean to say is, that M. Brachet is not warranted in interfering, *a priori*, that there must necessarily be two stomachs. We remember, of course, the case of Ritta-Christiana, where two stomachs were found in the post-mortem examination. To this, which we acknowledge to be a digression, we have been led, perhaps MISled, by the fond recollection of the many happy hours we have spent over the old school question of "personal identity." The present is however less metaphysical, and more matter of fact, it being neither more nor less than whether *personal individuality*, or *distinction* of person, requires distinct digestive organs. Our province being however medical, though in such a character we may truly say, with the old man in the play, "humani nihil a me alienum puto," we shall, for the present, leave the full consideration of this matter, as to the advantages or disadvantages likely to result from a community of stomachs, in the hands of the political and domestic economist. If partnerships in such a concern were not congenial, but left to the selection of the individual, we are rather inclined to think that certain *persons* in a neighbouring dountry, whose habits under the existing order of things are not such as to occasion in them much abdominal developement, would be disposed to choose for their co-partners in the digestive firm, other *persons* who have hitherto not evinced much *sympathy* with them, whose abdominal protuberance, however, might excite a suspicion, that there was "room for two"—the latter persons, we apprehend, would feel *stomached* at such an arrangement.

MM. Desruelles and Broussais considered the trisplanchnic nerves as the organs which give to the mucos tissue the power of feeling the want of food.—(*Journ. de Med. July*, 1223.)

M. Desruelles will also have it, that the general phenomena of hunger, and the sudden satisfaction arising from the taking of food, dspend on the same nerves. If, our author observes, this gentleman had considered, that these phenomena are nervous, since they cease as soon as the stomach has received the impression of aliment, before this aliment is digested, and long before its nutritive juice has reached the organs, and, above all, if he had observed that these phenomena occur in organs subjected to the influence of

the nervous system, he would not have hazarded such an opinion. As a conclusive proof with respect to the agents in the sensation of hunger and satiety, he supposes a very probable case; namely, a person sinking under the effect of inanition, who, exhausted from hunger, sits down, and prefers to die rather than walk a step further, yet this individual, on being assured that by proceeding to a little distance he shall obtain abundance of food, revives in a manner, and recovers the use of his legs and spirits. He thought himself unable to walk ten steps, and the hope of obtaining food makes him walk ten miles. Here the great sympathetic can have had no share in the thing, as it can have perceived nothing: the brain alone and its nerves were the agents of restoration; they were also the agents of the several phenomena. Like all the other nerves of the senses, the pneumo-gastric nerves are subject to several modifications of susceptibility, and anomalies of sensation. To them may be attributed those nervous cases of anorexia so often observable, instances of bulimia, pica, &c. In convalescence, after an acute disease, the stomach digests, and yet the individual is always hungry; the reason is, because then all the organs and all the exhausted tissues call for reparative materials, demand them from the stomach, whose business it is to send them, and so keep up in this organ the continued sensation of want, which, in this case, is but sympathetic. This is not the only sensation which the pneumo-gastric nerves are commissioned to receive—they perform an important part in the exhibition of medicnal substances. It is they which receive the impression of the medicine, and which transmit it to the encephalon. If a narcotic be taken, its action on the encephalon is perceived almost instantaneously, and long before the medicine has been digested or absorbed. This transmission can take place only by means of the eighth pair, which receives the impression, and transmits it immediately to the brain. For the purpose of comparison the author administered six grains of opium to two dogs of the same size, having previously divided the pneumo-gastric nerves in one of them. The dog which had not been operated on soon experienced and evinced all the symptom of complete narcotism, whilst the other lay down quietly, and showed no other symptoms than the difficulty of breathing natural to the operation.

Another fact worthy of remark is, that nux vomica, which so rapidly produces the signs of poisoning, produces no effect as soon as the eighth pair of nerves has been divided. You may give a double, or treble dose of this substance—poisoning will not take place in the first instance; it evinces itself only at a much later period and with less intensity unless the dose be very large. Hence it is evident that *strychnine* acts on the cerebral nervous system, since it exerts no action, when the nerves with which it is related are divided, and that it acts only when it is carried by absorption to the brain. The same observation may be applied to all medicinal substances. In whatever dose emetics and purgatives be given to dogs in whom the nervi vagi have been divided, no effect is produced; the brain perceives nothing—there is no reaction. The remedy produces no effect, unless it be absorbed, and act directly on the contracticle fibre. Every one knows that, when the encephalon is the seat of any affection which retards its functions, the action of remedies is much less efficacious, and that then double or treble doses are required to produce the same effects. Why is this? Merely because the diminished cerebral action renders the nervi vagi much less susceptible

of impression. Incontestable proofs are every day furnished of this circumstance, in cases of apoplexy, cerebral inflammation, and effusion, &c.

It is also by the pneumo-gastric nerves that we can explain the extraordinary effects of the re-action of the stomach on the encephalon, sympathetic effects, which perform a great part in diseases, and to which, perhaps, too much has been conceded in latter times. Let us only observe what occurs in intoxication, as we will then see the effect of the action of the nervus vagus, much more than that of the absorption of the spirituous liquor. Intoxication is produced before absorption can have taken place; as a proof of this, we may adduce the almost sudden effect of liquid ammonia in a drunken man. Let him take but a few drops of this alkali in a glass of sugar and water, and the state of intoxication disappears almost suddenly, and as if by enchantment. The wine, then, must have acted only on the nervi vagi; the ammonia, too, must have directed its action to them. This is the only mode for accounting for these phenomena. We constantly see the violent headaches produced by bad digestion, as also the intolerable megrims occasioned by collections of bile, or indigestible substances in the stomach, which megrims can only be removed by dislodging the offending matter by vomiting, &c.

Our author next considers the peristaltic and anti-peristaltic action of the stomach. After adverting to the discoveries of the distinguished physiologists who directed their researches to this subject, particularly Blainville, Brodie, Legallois, Wilson, Philip, &c. he remarks that, whilst it must be admitted that these distinguished experimenters have added much to our knowledge on this interesting subject, still that as many different opinions have been started on the question at issue as there have been experimenters —each of them endeavouring to explain whatever was found to contradict the experiments and opinions of the rest. So that, whilst the nervous influence was admitted on all hands, its mode of action was misunderstood, in consequence of the general way in which they viewed the question. All their researches were directed to ascertain the influence of nerves on digestion, and, as their experiments were confined exclusively to the pneumogastric, as they were the only nerves which they could reach with their instruments, every thing was referred to these nerves, no notice being taken of the other nerves which the stomach receives, and, consequently, no account being taken of the influence which the latter may still continue to exercise. As the process of digestion consists of several acts, and as each of these may be subject to various influences, they could not appreciate these special influences, inasmuch as they always considered digestion en masse; so that the influence of one nerve on one of these acts became the nervous influence on digestion. In order to proceed more methodically, it becomes necessary, then, to attend —1st, to the different species of nerves which the stomach receives 2dly, to the different actions which constitute digestion; 3dly, to the influence of each species of nerves on each of these acts. It was only by proceeding in this way, that one could hope for a satisfactory solution. As has been already mentioned, the stomach receives nerves from two sources—from the cerebral system, and the ganglionic system: the nervi vagi are the cerebral nerves of the stomach, and the nerves of the stomach coronary plexus are its ganglionic nerves. It is very important not to loose sight of these two sorts of nerves, if we would obtain positive data with respect to the nervous

influence on digestion. The acts of the stomach on the alimentary mass may be reduced to two principal heads. These are—1st, the peristaltic and anti-peristaltic movement, by which the alimentary mass is moved to and fro, and then expelled from the stomach; 2dly, the secretion or exhalation of the juices or liquids, whose chemico-vital action on this mass constitutes chymification. Our author now proceeds to detail some of the facts connected with this subject, as it will afterwards be easy to deduce from them the most satisfactory explanation. His object not being, like that of some of his predecessors, to ascertain whether the nerves could, after being simply divided, transmit the nervous influence, he premises that, in nearly all experiments, he took care to ensure loss of susbstance in the nerves, and to cut off every kind of connexion or direct communication.

Experiment 54. After making a dog to fast twenty-four hours, he made him eat a large quantity of meat; immediately after, he divided the eighth pair. Ten hours after, he opened the animal, when he found the stomach distended, still containing all the food that had been taken. All the small intestine was empty. The stomach, which was opened with great care, presented the alimentary mass but little changed, except on the surface, which was covered with a thin layer of greyish mucous chyme; all the inner parts of the alimentary substances retained the appearances peculiar to each.

Experiment 55. For the purpose of comparison, he killed a dog of the same size, which he had also made to fast and eat at the same time as the preceding dog. The stomach was empty, and contained nothing but some greyish mucus. The small intestine was likewise empty; the large intestine alone contained the natural residue of digestion.

Experiment 56. After having made a dog to fast, which was of the same size as the preceding, he made him eat at the same hour. He then made an incission on both sides of the neck, and exposed the nervi vagi without cutting them. He then let the animal lie for ten hours, as in the preceding cases. On opening the body, he found, as before, the stomach and small intestine quite empty, and the large intestine full.

Experiment 57. He repeated the three preceding experiments on three young dogs of the same size, with this only difference, that he opened them six hours after they had eaten. In the first, that whose nervi vagi were divided, the stomach contained all the food that had been taken; its surface was covered merely with a very thin layer of chyme, much more marked towards the pylorus than towards the cardia. In the second, that which underwent no operation, digestion was complete. In the third, digestion was not completed; the stomach still contained a great quantity of clear grey chyme, of the consistence of an almost liquid pap, in which were found some remains of tendon and bones. The duodenum and small intestine contained a part of the chyme, and the lacteal vessels were filled with chyle.

He repeated these three experiments several times. The two first always presented the same degree of advancement in digestion, whilst, in the third, he obtained results extremely varied. Sometimes digestion was as complete

as in the second; at other times, it was not more advanced than in the first.

Experiment 58. Immediately after having made a dog eat, he made on the sides of the chest, two deep and large incisions; he then, from time to time, irritated the wounds with his fingers, and six hours aftewards he opened him. Digestion was nearly complete; there only remained in the stomach some slight traces of chyme, and some portions of tendon. The chyliferous vessels were gorged with their white juice; the deuodenum was nearly empty, as were the small intestines; the large intestine contained nearly all the fæcal matter.

As it was important to verify the results of this experiment, he repeated it on several dogs, varying the seat of the wound; he never obtained precisely the same results. The advancement in the process of digestion was always in the inverse ratio of the severity of the injury inflicted.

Experiment 59. After a fast of 15 days, and immediately after dividing the eighth pair, he made an old horse eat a quantity of oats. He killed him in eight hours after, by introducing some bubles of air into the jugular. The stomach was distended with all the oats he had eaten. The grains at the surface were half digested, pulpy, and readily bruised between the fingers. The greatest number, those occupying the centre, were softened, but not changed. The lacteal vessels contained no chyle.

Experiment 61. Whilst sojourning for a time in the country, a horse in his neighbourhood happened to fall from a height, and broke his thigh. It being the usage to sacrifice the animal in such cases, he determined to take advantage of the occurrence. He let the animal fast for 10 or 12 hours, and then brought him some oats, which he ate as if he were quite well. Immediately after, the two pneumogastric nerves were divided. Eight hours after he killed him, by introducing air into the jugular vein. The intestines were empty, except the large intestine, which contained some remains of oats, evidently belonging to the preceding digestions. The stomach was distended, and contained all the oats which had been eaten. At the surface, chymification was complete to the depth of two or three lines towards the cardia, and of four or five lines towards the pylorus. Most of the grains were softened and pulpy; some of the oat-husks were empty; a greyish, chyme-like matter was interposed between the grains, whilst those of the interior of the alimentary mass were sound and intact, though a little swollen.

Experiment 63. After having suffered a rabbit to fast 15 hours, he made it eat several leaves of sorrel; and immediately after, a portion of the two nervi vagi was cut out on each side. Notwithstanding some efforts at vomiting, the animal threw up nothing. He was killed seven hours after. The intestines were empty, and the chyliferous vessels were not apparent. The stomach was distended by the leaves it had swallowed, which, on the surface, presented an evident appearance of alteration, particularly towards thy pylorus, where they were reduced to a pulpy homogeneous mass, of a greenish-gray colour, and a particular odour; internally, they presented only a very minute division, without any apparent alteration, and they retained their natural odour.

Experiment 70. In another experiment, our author removed a small portion of the posterior lobes of the brain, and a portion of the medulla oblongata, as far as below the origin of the eighth pair, in a young dog, immediately after having made him eat two ounces of boiled meat. He was able to keep the dog alive for five hours. The stomach contained all the food. This was intact on the side towards the cardia, and in all the interior of the mass which it formed; but towards the pylorus it was more moist, and had already undergone a manifest change on its surface.

We shall not, for the present, detail any further experiments, but shall present to our readers the conclusions deduced by our author. Before stating them, however, he lays it down, that the digestion of aliments taken into the stomach requires for its completion—1st, the action of a gastric juice, poured out from all parts of the stomach on them; 2dly, a peristaltic alternating motion, which presents the aliments successively to the parietes of the stomach, for the purpose of impregnating them with this gastric juice, by which motion, also they are expelled from this viscus. As his experiments, as yet, have been only on the pneumo-gastric nerves, he can, for the present, appreciate the influence of these nerves only on digestion.

In all the animals in which he divided this nerve, with loss of substance, at the moment they had just eaten, he invariably found the stomach filled with aliments, and the intestine empty. The same effect was obtained by acting on the brain, either by removing this viscus, or by the injection of narcotics. The surface of the alimentary bolus was well impregnated with the gastric juices, and even partly reduced to chyme; but this is not sufficient—it is necessary that the aliments be agitated to and fro, and pressed in different directions by undulatory or peristaltic movements, by which every part of these aliments may be successively presented to the internal surface of the stomach, to produce a more intimate combination with the gastric fluids, and in order that their action may be in some measure more vital, as they are poured out at the moment they are formed. It is further necessary, according as chymification is effected, that this motion should expel the aliments already digested or chymified, in order to make way for others. Now this motion of the stomach is owing to the contraction of the muscular fibres extended over its parietes, and this contraction is subject to nervous influence. Since the substances swallowed could not be expelled from the stomach after the operation, it follows that there must have been an abolition of this contraction, or in other words, a paralysis of the muscular plane. The food may accumulate in the stomach, because it is propelled by the action of the pharynx and upper part of the œsophagus which are not paralysed; it may accumulate beyond measure, even so as to regurgitate into the œsophagus, as we have already seen, but it goes no farther, as the stomach is not empty. As it may happen that a small quantity is occasionally found in the duodenum, we would be wrong in supposing that the stomach propelled it there; it came there only by a mechanical impulsion; it was pushed on by the last portions of food introduced into the stomach, which were themselves propelled by the pharynx and œsophagus. The stomach merely performed the part of an inert tube, without taking any active part in the matter. What, then, does the stomach want, in order to be enabled to continue the agitation and expulsion of the food, as before? The nervi vagi are the only nerves that have been divided; these nerves,

therefore, are destined to keep up the motions of the stomach; it is their office to carry to its muscular layer the nervous action, under the influence of which it contracts.

Our author here anticipates an objection which may be made to him, namely, that frequent efforts to vomit have been observed to take place after the eighth pair had been divided, particularly if the division has been attended with loss of substance. On some rare occasions, even a small portion of the stomach's contents has been actually rejected. To this he replies, that this is only regurgitation, not vomiting; the only portion rejected is that which occupied the upper part of the œsophagus, or even of the pharynx, which organs were not paralyzed; the stomach is not at all emptied. Nay, he says he will go farther, and not deny the possibility, or even the actual occurrence of vomiting. It will be objected, he says, that since there is antiperistaltic motion, there cannot be paralysis. To this he replies, that if the primary cause arises from a particular state of the stomach, the material or acting cause lies entirely in the respiratory muscles, among which are those of the abdomen. The latter, and the diaphragm particularly, contract with violence, and the stomach, immoveable and inactive, sustains their efforts; it in fact becomes here the bladder of M. Majendie, in his splendid experiments on vomiting; so that the portion of food which has been voided in these cases was forced out by expression.

"I even admit," says our author, "that the stomach has contracted antiperistaltically: this contraction involves nothing that contradicts my opinion. A nerve is divided, the muscles to which it goes are paralysed. Yet we see these muscles agitated convulsively every time the portion of the nerve separated from the nervous centre is stimulated in any way whatever. The nervi vagi, whose cut extremity is connected with parts of a different kind, meet in these parts a cause of excitation, and the slightest movements of the animal produce a friction still more irritating. The nerve thus stimulated, acts irregularly on the stomach; thence arises vomiting, which is the real convulsion of this organ. This is so true, that if the stimulation be kept up artificially in a regular, constant and uniform manner, for instance, by means of the galvanic pile, the motion will become regular, and the food will be expelled from the stomach nearly as well as in the animal under ordinary circumstances, as have been proved by the experiments of Dr. Wilson Philip and others. . . . . .Galvanism acts here, as it does on all nerves which go to muscles; it takes the place of the nervous influence, so as to stimulate the muscular fibre, cause it to contract, and to agitate the alimentary mass, in order that chymification may be effected on all points of it, and the expulsion of the chyme may take place. There its action is limited; it has no chemical effect on the alimentary bolus for its chymification, as had been supposed."

Our author, in order to ascertain the just value and precise effects of galvanism on the process of digestion, instituted some experiments similar to those made by Wilson Philip and others. The conclusion to which he arrived was, that the manner in which the galvanic fluid acted, differed not from that of any other mechanical and irritating agent, which might have excited the contractions of the muscular fibre of the stomach by stimulating the eighth pair of nerves. Those artificial contractions produced the same effect as those which are natural; they tossed the alimentary mass to and fro, and presented the different parts of it to the surface of the stomach, so that these parts might have become impregnated with the gastric juice; and, finally, they expelled the parts which had undergone chymification from this

viscus—in a word, the action of galvanism on all the other muscles of the animal economy should make us conclude, by analogy, that this action is the same everywhere, and that the muscular plane of the stomach is not exempted from the general law of excitation, which it produces on all the muscles.

Our author next notices an opinion of M. Majendie with respect to the influence of the eighth pair in digestion. M. M. thinks that the division of this nerve acts but secondarily on the stomach; that its primary action is on the lungs, and that it is only in consequence of the disturbance produced in the respiration that digestion becomes arrested or suspended. He founds his opinion on this circumstance, that digestion is deranged by dividing this nerve only when the division is made in the neck, above the origin of the branches which it gives off to the pulmonary plexus, whilst on cutting both these nerves in the chest below the branches which go to the lungs, the food introduced into the stomach becomes changed into chyme, and ultimately furnishes an abundance of chyle. Our author attempted to repeat this experiment several times to ascertain the correctness of M. Majendie's conclusions—in one experiment, he imagined that he succeeded; in that, he made a dog, on which he operated, eat a small quantity of dressed meat, he let him rest for half an hour, and having killed him six hours after, he found the process of digestion considerably advanced. This of course tended to upset all his conclusions with respect to the mode of action of the nervi vagi on the stomach. He investigated the matter with all possible care. He ascertained that, in consequence of the plexiform arrangement of the pneumo-gastric nerves on the œsophagus, it was impossible completely to divide, unless by entirely dividing the œsophagus; so that the experiment, which had staggered him at first, could not lead to any positive result.

The author in recapitulation states, that the conclusion to which his experiments have led him, is, that the pneumo-gastric nerves are the agents which keep up the contractile action of the muscular place of the stomach, and that their division occasions its paralysis. As these nerves arise from the encephalon, and serve only to transmit its influence. the result is, that it is on the brain itself that the contractions of the stomach depend. One is no doubt struck with the extraordinary circumstance of cerebral nerves bringing to organs an influence independent of the will. To this we say that the nervus vagus is not the only nerve that does so; it may also be remarked, that this nerve does not reach the stomach till after it has formed a long plexus around the œsophagus. Might not the object of this gangliform plexus be to weaken the nervous action of the encephalon, says our author, or rather to arrest the effect of the will?

After adverting to the reciprocal influences of the stomach and brain, the vehicle of this reciprocity being the pneumo-gastric nerves, he makes an observation regarding the separate functions of the nerves of sensation and the nerves of motion. M. Majendie, in testing this theory by ingenious experiments and conclusive facts, has made considerable progress in the study of the functions of the nervous system. The pneumo-gastric nerves resemble the spinal nerves in their origin. Some filaments of their roots descend in oblique fibres from the edge of the calamus scriptorius, which belongs to the chord of sensation; the other filaments arise from the corpus olivare which is continuous with the chord of motion. According to this, the

pneumo-gastric nerve must discharge the double function of a nerve of sensation, a nerve of motion, and, in fact, this is what may be seen in the lungs and stomach. In the heart it appears destined only to transmit the pathological and moral sensations, to establish a more direct communication between the two orders of life; but in the two other organs, it is at once a nerve of sensation and a nerve of motion. With respect to the lungs, on the one hand it receives and transmits the want of respiring, of expectorating the mucus collected in too great quantity, and of expelling the foreign bodies which may be introduced into them: on the other hand, it gives to the contractile fibres of the bronchi the faculty of contracting, when this has become necessary for the respiration as for the different expectorations. With respect to the stomach, it is the organ of hunger and satiety, the sensation of which it transmits to the brain; it communicates also to the muscular tunic the nervous influence on which its contractions depend. Thus this nerve, by its functions, as by its origin, confirms the theory of M. Majendie, at the same time that it receives from it a direct application which may add, if possible, more confidence to the different opinions expressed in this work in relation to its functions. If, however, the theory of MM. Majendie and Bell, says our author, were false, (we own that we were surprised at his not alluding to Bell long before,) facts would still remain the same, and the pneumo-gastric nerve would still continue to discharge its functions.

M. Brachet now comes to the subject of *chymification*, or that chemico-vital act by which the food is impregnated with the gastric fluids, in order to be converted into chyme. As this act depends entirely on the exhalation or secretion of a particular liquid poured out on the surface of the stomach, which liquid is called the gastric juice, the next question is, does the formation of this liquid depend on the influence of the eighth pair? The experiments of our author, as well those which we have mentioned in this analysis, as others which we shall not notice, led him to the result, that the eighth pair has no influence whatever, either on exhalation and secretion, or on the absorption which takes place in the stomach. Hence he arrives, by a negative argument no doubt, or, as he calls it, par voie d'exclusion, at the conclusion that these two gastric operations depend on the ganglionic nervous system. This consequence is fairly deduced, no doubt, as we cannot point out any other nerves received by the stomach, except those already mentioned, and as these acts must be performed under some nervous influence or other. Direct and positive experiments on the ganglionic nerves our author frequently attempted, but to no purpose. So that it was only after the results which he attained from his experiments on the eighth pair, that he was able to deduce any conclusions, which fortunately were of the highest consequence, inasmuch as they shew that the pneumo-gastric nerve perceives the want of food, and transmits to the stomach its contractile power, and the great sympathetic nerve only presides over the exhalation and secretion of the gastric juices, and the absorption of the fluids taken into the stomach.

We shall now take a rapid view of the influence of the two nervous systems over the functions of the other parts of the intestinal tube. We shall no longer trouble the reader with a detail of the author's experiments on this part of his subject, but shall come at once to the results. On dividing the

eighth pair, some hours after taking food, he concluded that the duodenum and upper portion of the small intestine were paralysed, inasmuch as the alimentary substances could not go further, and because, several hours after the operation, these aliments were not found in the same place as in animals opened at the same hour, without the nerves having been divided. This influence, however, he found did not extend through the entire length of the small intestine, since the lower part of this intestine was able to empty itself, and the food contained within it at the time of the operation, reached the last intestine well digested. One of the author's experiments proved that this part of the small intestine was under the influence of the spinal cord, since the division of this, at the lower part of the back, allowed the chyme to accumulate in its cavity and in the large intestine. This was a matter to be anticipated, seeing that these organs receive nerves from this portion of the cerebro-spinal system. It would be desirable to be able to establish with precision the point where the influence of the nervous vagus ends, and where the influence of the spinal nerves commences; in a word, what is the line of demarcation between these two species of cerebral nerves. This is possible, and probably very readily determined; this, however, our author has not attempted. The muscular layer of the small intestine receives then from the cerebro-spinal system the nervous influence which serves as its stimulus: it is dependent then on this system, with respect to its contractile action.

In some of our author's experiments not detailed in this analysis, it was ascertained that, notwithstanding the division of the eighth pair and of the spinal marrow, the stagnation of the chyme in the small intestine did not prevent absorption from going on, since the lacteal vessels were always found full of chyle, and the quantity of liquid injected into the small intestines, in one of his experiments, was found to be perceptibly diminished. The results thus obtained were conformable to those of M. Majendie, in his beautiful experiments on venous absorption. It concerns not the present inquiry, as our author very fairly observes, whether this absorption takes place by veins, or by the chyliferous vessels exclusively, or by both combined. All that is essential for the present purpose, is to know that this function of absorption continues, and that the division of the cerebral nerves which go to this portion of the intestine does not destroy it. Now this function, continuing, notwithstanding the separation of the intestine from the cerebro-spinal centre, cannot be dependent on this system. It takes place, as in all other animated beings, more particularly as in vegetables, under the sole influence of the ganglionic system of nerves.

With respect to intestinal exhalation and secretion, these certainly continued, since the chyme presented, in the experiments wherein the intestinal nerves were divided, the same changes as in the animals killed for the purpose of comparison. As in the stomach and every where else, these two functions depend on the ganglionic system; consequently, the division of the cerebral nerves cannot influence them directly.

Influence of the Nervous System on the large Intestine. Since the eighth pair ceases to send branches, and to transmit its influence to the lower part of the small intestine, *a fortiori*, its influence disappears on the lower part of the large intestine, which receives its cerebral nerves only from the spinal

cord. Now these latter nerves act as the preceding, by directing their stimulating influence towards muscular contraction. Cut the spinal cord in the midst of the lumbar vertebræ; by paralysing the cauda equina the rectum also becomes paralysed, and the fæces accumulate in this intestine. Our author divided the spinal marrow between the third and fourth lumbar vertebræ in a cur dog—the cauda equina was paralysed. He kept it for two days, during which it ate nearly as much as usual. It passed neither fæces nor urine. The large intestine was distended with an enormous quantity of fæces. The bladder also was distended with urine. He repeated the same experiment on a cat six weeks old, which he kept for eight days. During this time the cat took soup and milk as before. The first thirty-six hours it had no evacuation—its abdomen was prodigiously distended—it then began to pass from time to time a small jet of urine, which was renewed every hour. On the fourth day it voided some fæces, and then continued for three days without passing any. On killing it he found the bladder enormously distended, though it had passed urine an hour before. All the large intestine was filled with fæces, and yet the cat had passed a considerable quantity the day before. In these two experiments we find paralysis of the bladder and large intestine occasioned by the division of the lower part of the spinal marrow. It may be said, with respect to the experiment on the cat, that it passed urine after thirty-six hours, and voided some fæces at the end of four days; consequently, neither the bladder nor large intestine were paralysed, and consequently their contraction was independent of the nervous action of the spinal marrow. The fact is true, but the consequence is false;—the cat passed urine and fæces; but this action was independent of the contraction of the bladder and rectum; the animal passed only in consequence of repletion. Both these organs, being enormously distended, would not admit of greater extension; consequently every additional portion must propel that which was anterior to it, and so cause it to pass on. The contractions of the abdominal muscles also must have contributed to expel the contents of the bladder and rectum by pressing them in every direction. As a proof that the bladder and rectum had nothing to do with the excretion, they were never emptied. The bladder was prodigiously distended, though the cat had passed urine a few minutes before it was killed: the large intestine was completely filled, though fæces had been passed the day before.

Our author here mentions a case of a countryman brought into the Hotel Dieu, in consequence of a fall from a high tree, by which the vertebral column was fractured. On his admission, there was mobility and displacement in the part fractured. The lower extremities were completely paralysed, as were also the rectum and bladder. The patient experienced a sense of tightness arising from the fullness of the abdomen; but he felt no necessity either to go to stool or to void urine. Two pints of urine were drawn off by the catheter. The elasticity of the bladder, and contractions of the abdomen, at first caused the fluid to flow out in a strong jet, which however soon ceased, though the bladder still contained a great quantity of urine, for the discharge of which it became necessary to make pressure over the hypogastrium. After three or four days the introduction of the catheter became very difficult;—this was found to be occasioned by an accumulation of hardened fæces in the rectum, which it became necessary to remove with the finger, as a lavement could not be admitted. This fact proves that the

muscular contraction of the rectum and bladder is dependent on the cerebro-spinal nervous system. It also proves that the sensation peculiar to these organs—that sensation by which the encephalon is apprised of the fulness of the rectum and bladder, and of the necessity of emptying them, is destroyed by disorganization of the spinal cord, since the patient had no sensation of this necessity, and as he made no effort to satisfy it. This circumstance shews that here, as in all the sensations of necessity, it is the cerebro-spinal which perceives them, and which is their agent or organ.

In support of this opinion our author cites the following case. M. de M——, who had been a soldier for several years in 1814 and 15, experienced some rheumatic pain affecting principally the lumbar region—in 1816. he fell from his horse. The pains left the lumbar portion of the vertebral column. The lower extremities became the seat of a painful sense of formication; one of the spinous processes of the lumbar vertebræ projected; the formication was changed into a sense of numbness, and by degrees paralysis of the lower extremities and of the lower fourth of the abdomen became complete. Bleeding, both local and general, moxas, cauteries, setons, mineral waters, nux vomica, drastric purgatives, &c. all proved of no use; sensation and motion were abolished. For the last eight years this paraplegia has not changed either for the better, or otherwise. M. de M. never experiences the sensation of a necessity of evacuating his bowels, still he goes to stool and passes his urine. He is apprised of the necessity of doing so by the distention of the abdomen. He then forcibly contracts the diaphragm and abdominal muscles, and assists their action by pressing with his hands on the umbilical and hypogastric regions; the fæces and urine escape, but without causing any sensation to the patient, who never perceives it except by the diminution in the size of the abdomen. Since he has been in this state, he has had two children. The spermatic secretion goes on perfectly well; erection takes place, and the ejaculation of the semen supervenes; but it passes off without any shock, and without producing that keen and voluptuous sensation which usually accompanies it. He has had three attacks of gonorrhœa during a long absence from his wife; the mucus flowed in abundance, and the passage of the urine caused no pain: they each lasted about six weeks. In October of 1825, M. de M. had a very severe attack of enteritis. The intestinal exhalation and secretion were increased and diarrhœa came on. The evacuations were accompanied with colicky pains; but their passing was not at all felt, though the patient had hæmorrhoids in a very inflamed state. In this case M. Brachet conceives it very probable that the fall produced myelitis, or at least spinal meningitis, the severity of which was increased by the rheumatic disposition seated in this region. The disorganization or compression of the cord was the sequence, and paraplegia the consequence of this. Whatever be the rationale of the matter, the fact itself proves this:—1st. that the alteration of the spinal cord paralysed not only the lower extremities, but also the organs to which it sends nerves, as the rectum and bladder; 2dly, that the paralysis was not confined to the power of motion, as it extended also to sensation, the patient not feeling either the necessity for evacuating his bowels, nor passing of the excretions; 3dly, that this paralysis interferes not with the secretions and exhalations, since there was posteriorly copious diarrhœa, and anteriorly three gonorrhœas. Thus the abolition of the func-

tions of the sensorial nerves abolished those acts only which were within their province—muscular contraction and the sensation of necessity—and had no influence over those acts which are foreign to them, namely, the acts of exhalation and secretion, since these continued. Accordingly, these two acts depend essentially on the influence of the ganglionic system.

Absorption took place in the rectum, for, during the enteritis with which this patient was attacked, small lavements of decoction of bran, and ten drops of the liquid laudanum of Sydenham was administered; they were, for the most part, retained, particularly when the purging stopped, and they were absorbed. Thus the rectum, like the stomach, is subject, on the one hand, to the cebro-spinal influence for the sensation of necessity, and for its contractions; and, on the other hand, to the ganglionic influence for exhalation, secretion, and absorption.

Our author next introduces some experiments to establish the functions of the two nervous systems in GENERATION. Without detailing the experiments, we shall merely state the result: and first with respect to the *male*—he ascertatned that the secretion of semen is totally independent of the influence of the cerebro-spinal system, inasmuch as he found this secretion to go on, notwithstanding the lower part of the spinal marrow was divided; so that, by analogical, and indirect or negative arguments, it may be fairly concluded that this, as well as all the other secretions, is solely under the influence of the nervous system. By experiments on female animals, and by observing the effects of disease of the spinal cord in women, he arrived at the conclusion, that the cerebro-spinal system was not essential to conception.

We shall proceed to his observations on the influence of the ganglionic system of nerves on the SECRETIONS. The secretions are essentially connected with the functions of assimilation; they are found in all organized beings, both animal and vegetable. As the latter are destitute of a cerebral nervous system, and, as they evidently secrete, it cannot be disputed that these functions depend on the ganglionic nervous system, this being the only system they have. By analogy, we may conclude that this is, in animals, the source of the action of their secreting organs.

"There (says our author) what we have to say on the secretions should cease, since our end is attained, and since we have already seen, in the preceding experiments, 1st, that the pulmonary mucous membrane secreted mucus notwithstanding the division of the cerebral nerves which go to the lungs; 2dly, that the gastro intestinal mucous membrane performs the same secretion, notwithstanding the division of the par vagum and the spinal cord; 3dly, that the genito-urinary mucous membrane secretes mucus, though artificially or pathologically paralysed; and, 5thly, that the testicles secrete semen, though deprived of the influence of the cerebral nerves."

The different and contradictory opinions entertained by physiologists regarding the subject of secretion, and the necessity for the integrity of nerves which go to the organ, in order to its normal secretion, our author refers to the circumstance, of these several experimentalists not making the necessary distinction between the two orders of nerves.

Our author here details a great number of experiments, undertaken for the purpose of ascertaining which system of nerves is concerned in secretion. The results to which he arrives are, that "the urinary secretion, and, in-

deed, all the secretions are performed under the direct and positive influence of the ganglionic nervous system; that it is, in a word, this system, which, by means of its numerous branches, conveys into the glands the mode of innervation necessary for the due fulfilment of their functions."

"I am, (he says) convinced that if it were possible to withdraw for a time a gland from the action of the ganglionic nerves, it would not only cease to secrete its usual fluid, so as to allow nothing but blood to escape into its excretory ducts, but the organ would cease to be nourished, would become impregnated with the blood conveyed to it, but would no longer change it either into a new liquid, or into its own susbstance."

Exhalation, is also dependent on the ganglionic nervous system. This cannot be proved, to be sure, by direct experiment, as the various exhalations take place only from extended surfaces, and the membranes which are the organs of them, do not receive a nerve or a fasciculus of nerves, but receive, at every point of their adhering surface, thousands of imperceptible nervous branches. Pathology every day affords instances of this. In paraplegia, or hemiplegia, the limb or part paralized is found to transpire not less than the healthy limb. Whence, as the organs of exhalation no longer receive any influence from the cerebral nervous system, the function in question must recognize some other, namely the ganglionic nervous system.

We have now followed our author through the principal parts of his book. We give him great credit for the zeal and industry evinced by him in his very difficult enquiries, as well as for his dexterity and adroitness in conducting his experiments. We do regret, however, that he has been able to give us but negative or indirect proofs of the functions of the sympathetic nerve. The nature of the enquiry, the minute ramifications of the branches of this nerve, and the consequent, shall we say, impossibility of disengaging the several organs from their connections with it, have served may others, and surely will not be denied to him, as an apology for the species of argument employed. Negative proofs are unsatisfactory in every department of science, more particularly in those branches of it where the senses are called in to decide.

We shall now present our readers with a succinct analysis of the work of the celebrated Lobstein, on the same subject. The work of this distinguished physiologist is divided into three parts or *sections*, the *first* containing the *anatomical* description of the sympathetic nerve; the various circumstances connected with the history of this nerve, the evolution of this nerve in the fœtus, and its intimate structure. *The second section* is purely *physiological*, and contains the various opinions regarding the use of the ganglions—the nature, use, and importance of the sympathetic nerve—observations on the sympathetic nerve of animals—an examination of the powers possessed by this nerve—and an enquiry into its several functions—concluded with some observations with respect to the mechanism by which this nerve performs its several functions. *The third section* is entirely *pathological*, and contains, first, the dynamic diseases of sympathetic nerve, or functional affections of this nerve—consensual or sympathetic diseases, arising from an affection of this nerve—and, lastly, organic diseases of the sympathetic nerve. The anatomical description we shall altogether omit, as being entirely removed

from the office of a periodical journal. The various conjectures regarding the functions of this nerve we shall not enumerate, for the reasons already assigned at the commencement of this article. We shall, therefore, proceed to lay before the reader an analysis of the pathological portion of this highly interesting work.

Physicians for a long time suspected that, in those nervous affections of the abdomen so often met with in practice, the ganglionic system was the seat of the disease, and, above all, that in hypochondriasis and hysteria, the abdominal nerves undergo some change. This suspicion is at the present day confirmed; and it is now established as a pathological dogma, that these diseases are to be referred exclusively to a simple neuralgia of the abdominal nerves. With respect to *hypocondriasis*, all the phenomena of this disease clearly prove it to be of a spasmodic nature, and that it consists in a *neuropathy* of the system of the ganglions. The sensation of unusual pressure in the præcordial region, after taking food, the difficult digestion of food, accompanied with flatus, the great degree of distress, palpitations of the heart, dizziness of the head, trembling of the limbs, &c. can have their seat and origin only in a disordered state of the nerves of the abdominal viscera. The vital action of the gastric organs, which, in the natural and healthy state, occasion no sensation whatever, now affects the brain, after an unusual manner; the mind, influenced by this affection of the brain, forms an incorrect judgement of all that is going on in the abdomen. Hence it is, that the impression transmitted to the encephalon from the abdomen, through the branches of the nerves excites sudden fright, dread of appoplexy or some other alarming disease, the patients being, at the same time, totally removed from any danger. Somtimes the disordered state of the abdominal nervous system, and the effects of this on the brain, so change the constitution of the mind, that, amidst the various disturbances of the fancy, the thoughts become altogether unconnected—symptomatic mania and real delirium are produced, which again disappear with the returning energy of the mind. Oftentimes the mind is so carried away, that one time the patient breaks forth into loud laughter from the slightest cause, returning soon after to a state of melancholy, and even to tears, without any apparent reason.

Hysteria indicates an affection of the uterine nervous system, which draws into sympathy with it the nerves of the epigastric organs, and particularly of the lungs; so that dyspnœa, and a sense of constriction of the trachea, is a common symptom of this disease. It sometimes assails the dominion of the brain also; and the augmented energy of the sympathetic nerve gives rise to considerable mental aberrations, and produces actions apparently spontaneous, which are, however, in reality, totally removed from the empire of the will.

In a slighter degree, the patients frequently complain of spasms, which commence in the abdominal region, extend imperceptibly through the breast, when they sometimes produce merely the sensation of a vibration and oscillation of the integuments and muscles of the head and face; sometimes they give rise to intolerably acute pains, seated sometimes in the sinciput, sometimes in the occiput—affecting one-half of the head in some, in some the entire head; sometimes these pains are permanently fixed in some one spot in the head, so small that it may be covered with the thumb, accompanied by sense of cold; yielding to no remedies, save those which remove

the inordinate and excessive sensibility of the abdominal viscera. Hence it is, that we frequently see pain, which was before most intense, become instantly more mild after only a single eructation, and dissipated in a few moments by means of a few drops of laudanum or a few grains of castor.

The regular progress of an hysteric attack was very strikingly marked in the case of a young woman, admitted into the hospital under the author's care. First spasms came on in the abdomen—then pain and a sense of inflation in the epigastrium, with a feeling of distress and efforts to vomit; then constriction of the lungs, dry cough, and palpitation of the heart; then attempts at deglutition, as if a lump of food was sticking in the pharynx, ready to be propelled into the stomach; then complete aphonia. This series of symptoms attacked the patient repeatedly, so that one day one phenomenon appeared—another day the disease migrated, as it were, into another territory of the nerves. It originated in the hypogastric plexus; from thence it ascended to the gastric and solar plexus; from thence to the pulmonic and cardiac plexuses; and from thence to the laryngeal and recurrent plexuses. After this, the morbid affection descended by a retrograde movement, and in the same order in which it had ascended, into the pelvic organs, soon to retrace its pristine course.

The seat of *melancholy* and *mania* is placed, by the unanimous consent of medical men, in the abdominal viscera. These phenomena, formerly, ascribed to obstructions of the viscera, particularly of the spleen, are now more correctly referred to alterations of the nerves. Neither is it vapours that ascend to the head, nor black bile that is secreted in these diseases; but the solar plexus, or abdominal brain, re-acts on the cephalic brain, so as entirely to disturb its normal functions. This our author adduces as a proof of the close connexion between the abdominal and cephalic nervous centres. In the state of health the harmony between these two centres is uninterrupted. In the same manner as the cephalic brain may be excited, and exalted to an extraordinary degree of power, so, also, the abdominal nervous centre sometimes rushes from its own particular sphere, which is to preside over the function of nutrition, and produces, in certain diseases, phenomena of the most extraordinary nature.

Our author here alludes to the powers of animal magnetism, by which, he says, "it may be admitted as certain, that the abdominal nervous centre can be carried into a new sphere of action, the dignity of its functions exalted to the highest pitch, so that it takes on itself, as it were, the functions of the cerebrum itself, and displays extraordinary powers, of which we had before no conception, which we may, indeed, admire, but cannot explain." That our author is inclined somewhat to animal magnetism, would appear from the following passage:—

"I do not think that observations should be rejected, which seem to declare the existence of occult powers of nature; and, in my opinion, it is unbecoming in the medical philosopher to treat with contempt phenomena, without previous investigation, solely because they are involved in obscurity, and do not square with received principles and vulgar notions. More extended experiments, conducted with an unbiassed mind, will probably teach us what we are to think of new, or rather renewed, inquiries regarding magnetism, and what improvement physiology may derive from them."

As a farther proof of the intimate connexion between the cephalic and ab-

dominal brains, our author instances the fact, that the above diseases, scil. *melancholy* and *mania*, are frequently relieved, and occasionally cured, by the administration of medicines which irritate and stimulate the abdominal nerves. In this way may be accounted for the almost miraculous power of emetics, which merely excite nausea, the vast utility of which, in diseases of the mind, has been amply proved by experience. These medicines never act by their resolving powers, nor by evacuating sordes or morbid secretions in the alimentary canal, but as irritants applied to the gastric nerves, and then to the solar plexus; by which another mode of action is excited in these nerves; or at least, by reason of their intimate connexion with the brain, the morbid action of the latter organ is removed from it by revulsion, and directed to the abdomen on the principle of derivation.

Lead colic is seated unquestionably in the abdominal nerves, this being the only system to which we can refer the very acute pain of the intestines—the retrocession of the abdomen towards the spine—the constipation—tenesmus —suppression of urine—palpitations of the heart, &c. There is not a single symptom in this disease which may not be accounted for from the affection of this system of nerves.

Another disease which may be referred to irritation of the ganglionic system of nerves, is *angina pectoris*. This disease, according to our author, consists in an affection of the cardiac, and probably of the pulmonic nerves. It exerts its violence on the pectoral organs; constriction of the chest takes place, which gives rise to most acute pains; this, following a transverse direction, terminates at the arm, and excites in the patient inexpressible distress. The occasional causes of the disease, as well as its sudden attacks, prove it to be an idiopathic affection of the nerves. An objection may be made to this theory, derived from the bony incrustations so frequently found in the bodies of those who have died of this disease, at the roots of the aorta and pulmonary artery, in the semilunar valves, and often in the tunics of the coronary artery. Our author meets this objection by replying, that these ossifications are but effects, and not causes of the disease; inasmuch as they have frequently been found in these parts of the bodies of persons, who never had a symptom of the affection. To this he may have very safely added, that the symptoms have very frequently been observed in persons, in whom no such ossification was found after death. Our author conceives that we may readily understand the origin of these depositions, if we only recollect the dominion possessed by the nerves over the capillary vessels; the nervous branches act on the capillary system, and excite and exalt its normal functions, by which excitation the vessels were made to secrete a substance analogous to the tissue of those parts of the heart. Every pathologist knows how readily the fibrous tissue of arteries is penetrated by calcareous phosphate.

Another affection which our author refers to the same source is *incubus*, or *nightmare*. The feeling of oppression at the precordia, with short and laborious breathing, experienced by persons when lying asleep on their back —the interruption of their voice and utterance—the hallucinations of the senses and reason—the attacks ceasing in a little time, and again returning —the fluttering of the heart, fright and perspiration—the great lassitude experienced after the paroxysm has terminated—the livid spots occasionally observed on the body, &c. indicate an idiopathic affection of the solar plexus, which, through the nervus vagus, transmits the most painful impressions to

the brain, which, by means of the other anastomoses with almost all the nerves, produces unpleasant sensations in the limbs, and, finally, through its innumerable nervous ramifications, exerts its power on the capillary vessels, or, perhaps, excites an intestine motion in the blood itself. To this probably may be added, an electro-galvanic process, which, being spontaneously elicited, produces those shocks in the nerves and muscles, so well known to medical men.

Our author next proposes a conjecture with respect to the nature of intermittent fever, and suggests that it should be sought for in a perverted action of the abdominal system; and, in support of his conjectures, adduces some very plausible arguments; namely, that there very seldom occurs a case of this disease, in which the functions of the abdominal organs are not disturbed; that the paroxysm is often ushered in by vomiting; that the disease is frequently removed by means of purgatives alone; that a single emetic, given just before the paroxysm comes on, checks it, and sometimes cures the disease; from which it appears that another movement is impressed on the solar plexus, contrary to that which produced the fever; and, lastly, that the disease, when left to itself, or badly treated, produces infractions of the abdominal viscera, such as induration of the liver, enlargement of the spleen, &c. by which a general morbid state is changed into a topical affection. Another argument in support of this view, is derived by our author from the regular rhythm observed in the recurrence of the paroxysms of intermittents, arising from their being rooted in the nervous system, the functions of which are performed periodically, according to a law assigned it by Nature.

These two systems of nerves are liable to their respective diseases. As the various convulsive diseases, epilepsy, tetanus, &c. affect the voluntary muscles, though no organic lesion can be detected in them, in the same manner the nerves of the thoracic and abdominal viscera may be irritated, without any change in them discoverable by the senses; as the perverted action of the *cephalic brain* acts with the utmost violence on the *abdominal brain*, so, vice versa, the latter re-acts on it with no less severity, and destroys it; as, in fine, the cerebral system, stunned, as it were, by the violence of disease, closes the springs of life, there is reason to believe that the solar plexus does the very same in certain diseases. Sudden deaths are usually said to occur in three ways, through the *brain*, the *heart*, and the *lungs*. To this our author would add a fourth—namely, the *solar plexus*, the spring and centre of the abdominal nerves, a plexus which, seized on by any sudden commotion, may be affected with fatal paralysis, soon followed by death.

The author next introduces the subject of *sympathetic diseases*, the seat of which he places in the abdomen. Thus, *hemicrania* is frequently a concomitant of hypochondriasis and hysteria—*sympathetic headache* is often occasioned by obstruction of the bowels, which is proved by the great relief derived from the use of purgatives. Every medical man must be aware of the severe pain of head occasioned by worms in the intestines; worm fever is often known to assume all the symptoms of hydrocephalus, and all the bad symptoms are removed by the use of medicines calculated to improve that state of the abdominal organs.

Agrypnia or *sleeplessness* is often sympathetic, and may be classed under the head of affections of the abdominal nerves. This will appear evident to

any one who considers the many irritations, which, arising from the abdomen, increase the nervous action, accelerate the motion of the blood towards the head, and interfere with sleep. Hence it is, that persons who have crammed themselves at supper oftentimes awake after a short sleep, and are unable to sleep again.

Sympathetic affections of the eyes and nose are too well known to require much to be said on them. How often do we see opthalmia cured by directing attention to the state of the abdominal viscera. Vitiated secretions in the abdomen, which irritate its nerves, have often occasioned dilatation of the pupil, nyctalopia, hemeralopia, amaurosis, &c. Our author, after detailing various other local affections, which have their primary cause in the abdominal nervous centre, now shows how an inordinate or morbid state of these nerves may gradually and imperceptibly draw the several organs within their morbid sphere, and ultimately produce diseases in which real change of structure may be recognized.

The various depressing passions are capable of altering the natural and physiological state of the abdominal nerves.* Spasms are thus produced, by which the action of the vessels is disturbed; the necessary consequence of this is congestion of the fluids in the capillaries, the motion of the blood being retarded; thence infarction of the vessels, obstructions of the viscera, and genuine organic diseases. To this source of disease, our author refers aneurisms of the heart and great vessels. An attentive observation of disease has convinced our author, that spasmodic symptoms always, and for a long time, precede organic change.

1st. Every one knows that, in affections of the head, convulsive motions of the muscles of the face, grinding of the teeth, strabismus, &c. indicate serious lesion of the encephalon. These symptoms should be classed among the precursers of hydrocephalous, inasmuch as they are frequently combated with success, which scarcely ever happeus, if there be a collection of water already in the ventricles. The perverted action of the brain is not confined within the cavity of the cranium, but extends to distant organs, by which means organic diseases are produced. Inflammation and suppuration of the liver, after lesions of the brain, have no doubt been preceded by a dynamic state in the nervous apparatus of the liver. Various hypotheses have been devised, in order to explain the connexion between the encephalon and hepatic system, none of which approach probability. Our author would prefer to appeal to nervous communication, particularly that between the right nervous vagus and the solar plexus, through which the brain is associated with the right semilunar ganglion, from which the posterior hepatic nerves directly arise.

2d. Aneurisms of the heart are preceded by nervous irritation, particularly when they arise from an arthritic taint, and are formed slowly. The

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* A case somewhat in point will be found in the last number of this Journal, p. 184. The remote cause of this disease, in the individual referred to, was *mental anxiety*—this produced disordered functions of the stomach and bowels: the sequences, nay, the consequences, are so graphically detailed by the attending physician, Dr. Johnson, that we shall refer the reader to the article itself.—REV.

heart for a long time palpitates, and suffers tremors and nervous oscillations, before it is affected with real dilatation.

3d. Various are the morbid affections which usher in morbid changes in the lungs. Patients are for many years subject to spasmodic attacks, which are ultimately succeeded by ossification in the trunks of the arteries arising from the heart, as in angina. Our author has seen cases of phthisis, which, at the commencement, presented merely symptoms of abdominal neuralgia. The lungs, in these persons, seemed to be absolutely exempt from disease, so that one would have said that the general and nervous affections were suddenly changed into an organic lesion.

4th. In abdominal diseases the nerves have been affected sympathetically before they produced the organic lesions in the viscera to which they belong. The author has seen instances of induration of the pylorus, which came on after hypocondriasis of long standing.

The author has seen all the signs of inflammation in the sympathetic nerve, which inclines him to think that other organic changes may be found in it, if proper attention were used. He relates the case of a woman who died of exhaustion, occasioned by long-continued and obstinate vomiting, which nothing could stop. At the post-mortem examination, he found the semilunar ganglia of an intensely red colour, which was evident and genuine inflammation. This woman had been, for a long time labouring under hypocondrias, excruciating headaches, and raving in her sleep, She had had all these symptoms from puberty, had married at the age of 42, had become pregnant, which latter circumstance, added to domestic misfortunes, aggravated all the preceding symptoms, and ultimately produced the vomiting of which she died.

The value of the practical observations contained in the work of which we have given this analysis, will, we trust, be sufficient excuse with our readers for the length of it. We said, at the commencement of this analysis, that, to the practical physician, there is no department of physiology and pathology in which he can feel more deeply interested, than in the knowledge of the functions of the sympathetic nerve. Whether the authors whose names are perfixed to this article have done any thing to extend our knowledge of it, we shall leave to the reader's judgment. No one certainly will deny the value of the hints contained in that part of M. Lobstein's work which has been now presented to him.

Illustrations of the Comparative Anatomy of the Nervous System—Part I. By *Joseph Swan*. London: Longman and Co. 1835.

Mr. Swan's merits, as a most assiduous and minute dissector of the nervous system, have been so well known to the profession and the scientific public, ever since the council of the College of Surgeons adjudged their prizes to him for his dissection of this system, that his name will, we doubt not, prove a sufficient recommendation to the work before us. Without the least

desire to detract one iota from the well earned reputation of our author; yet we must, on the present occasion, take the opportunity of recording our sentiments respecting the work on which that reputation is principally founded.

The "Demonstration of the Nerves of the Human Body" is doubtless a work reflecting great credit upon the author for careful and industrious dissection, but we fear it has not yet effected much for the science of physiology. Undertaken, as it was, at so important an æra in neurological science, when the beautiful discoveries of Bell and Magendie had not long been given to the world, and when numerous theories not meriting to rank with discoveries, were put forth by those and other authors, we cannot but regret that its author did not, more than he appears to have done, direct his attention to what had been done by other anatomists, with the view of examining and correcting their various statements, and reconciling their discrepancies. In this way, and having carefully weighed the doctrines and theories in nervous physiology, how much good might not have been effected by such an undertaking. We write this in especial reference to the nature and functions of many of the cerebral nerves, and to Sir C. Bell's doctrine of respiratory system, towards the satisfactory settlement of which questions, anatomical research must yet contribute much. We will only stop, however, to mention the otic ganglion, described by Arnold ten years since.* At the same time we must admit that probably Mr. Swan deemed it better simply to state the facts he himself had made out.

The question as to whether the connexion of the sympathetic with the spinal nerves be with their motiferous or sensiferous nerves, or with both, has not engaged his attention, though highly important; and on the Continent employing the labours of Muller, Retzius, Mayer, Wütze1, and Scarpa, forming, perhaps, one of the very last subjects to which that great anatomist directed his attention. Many other, too, of the more recondite, and not less important questions in this department of anatomy, might be mentioned as not particularly noticed by Mr. Swan.

We hesitate not to state, that it will not be until we have a still more minute dissection of the cerebral nerves than has yet appeared, especially as regards the connexion and anastomosis of the nervous branches, that we shall be able fully to comprehend the functions of many of them, and enabled to perceive that their arrangement is the same as that of the spinal nerves. The appearance of Arnold's "Icones Nervorum Capitis," does not even altogether satisfy this desideratum, though making considerable advance.

The following extracts from our author's preface to his present work, will explain the views he had in its publication.

"The author having had frequent occasions for referring to comparative anatomy, during the course of his publications on the nervous system, he conceived that representations of his dissections might interest many, and especially assist those who were about to enter on similar pursuits." "It appeared probable that this intention would be in a great measure answered, by selecting

* Dissertatio Inauguralis, de Parte Cephalica Nervi Sympathetici in Homine. Fredericus Arnold. Quarto. Heidelbergæ, 1825.

such examples as would explain the scheme on which the nervous system is generally founded."

"It is desirable that researches by actual dissection should be encouraged as much as possible, as thus alone can the prospective advantages of science be consulted. If books be entirely confided in, all improvement must stop. These ought, therefore, to be esteemed as mere helps towards that perfection, which can only be approached by the active perseverance of individuals through progressive ages."

In the latter observations of our author we fully agree; but we fear that he has somewhat lost sight of the important fact, that the converse statement is no less true—that all improvement must stop, if we do not acquaint ourselves with what others have done and are doing, in that particular branch of enquiry to which we may devote ourselves.

The part of the work before us contains seven plates, drawn by West, and beautifully engraved by Finden, and embracing this part of the anatomy of the crab, the lobster, the leech, the earth-worm, the centipede, the slug, and the whelk, amongst invertebrate animals, and that of the cod in fishes. The delineations are very distinct, and appear to possess the important requisite of minute accuracy. We can hence speak in the highest terms of this Number, and recommend it to our anatomical friends. We cannot, however do otherwise than point out what we regard as slight defects in its execution.

These may be divided into two orders—those of omission and those of commission. We will devote a few moments to the consideration of each.

Our author does not allude to the recent valuable researches of Mr. Newport,* on the Development and Structure of the Nervous System of articulated Animals. These researches not only confirm the previous statements of Swammerdam, Lyonet, Herold, Meckel, Steviranus, Müller, Dufour, Straus, Durckheim, Weber, Audouin, and Edwards, and others, on many points in the comparative anatomy of the nervous system not referred to by Mr. Swan, but likewise have added much that is altogether new to our knowledge of this intricate, but highly-interesting subject. Mr. Newport shews, in the plates appended to his papers, and asserts, the existence of three distinct tracts in the ganglionic nervous chord of the articulata, each of which is engaged in giving origin to distinct nerves, supposed to possess distinct functions, analogous to the anterior and posterior roots of spinal nerves in vertebrate animals—with the hypothetical respiratory nerves of Sir C. Bell. On this point, we hold that our author might advantageously have stated the result of his individual researches, whether confirmatory of, or in opposition to, the statements of Mr. Newport. We should have been much pleased with the confirmation of these interesting researches, which, coming from Mr. Swan, would have been so truly valuable. We trust, however, that in the future numbers of the work, this error may be repaired, and are desirous of pressing the matter closely to Mr. Swan's attention.

Audouin and Edwards, in their researches on the anatomy of the crustacea,† have satisfactorily shewn, that the nervous system is formed on the same general model in those genera having a lengthened and those with a

* Philosopical Transactions for 1832 and 1834.

† Annales des Sciences Naturelles, tome xix. 181.

circular form, as, for example, the lobster and crab; that in their early state of development the nervous system of each consists of a double chain of ganglia; that these ganglia approximate to each other as the legs become developed; and that whilst they remain permanently distinct in the lobster, supplying seperately the extremities, in the crab they gradually meet, and become blended in one nervous ring, from which diverge the several pairs of nerves to the feet and tail; thus explaining why there is not in the tail of the latter animal, to use the words of our author, "any appearance of ganglia, as in the tail of the lobster, scorpion, &c."

The plates which illustrate the nervous system of the lobster are excellent, and, so far as they go, fully confirm Mr. Newport's researches. The ganglionic enlargements are distinctly seen on the ventral surface of the chord, whilst the motor tract is as plainly seen passing over them on the dorsal aspect, without entering into their formation. Finally, in the inter-ganglionic spaces are seen the more delicate "superadded, transverse, or respiratory nerves" of Newport.

We need not stop further, with respect to the contents of the 5th plate, than to observe, that the 5th, 6th and 7th figures, representing the nervous system of the slug and whelk, exemplify this part of the organization of these gasteropodous molluscæ, with a fidelity and minuteness hitherto, we believe, unequalled. These observations apply likewise, if possible perhaps, with still greater propriety, to the 6th plate, in which we have a most beautiful representation of the ganglionic nervous system of the cod. The great depth of shading, however, whilst it adds to the beauty of the engraving as a work of art, detracts somewhat from its utility, by obscuring some of the minuter nervous ramifications.

The interesting disposition of the spinal nerve of fishes, which our author points out in the cod, is so remarkable that we extract his description of it.

"Each anterior and posterior bundle issuing from the spinal chord is divided into two branches; one branch from the anterior bundle is joined by one from the posterior, and passes forwards to the muscles and skin on the anterior part of the spine; the other branch of the anterior bundle, after it had communicated with the posterior branch passing forward, passes backward, and is joined by the second branch of the next posterior bundle, to terminate on the muscles and skin on the posterior part of the spine. Neither of the branches of the posterior bundle forms a ganglion." 26.

We are at issue however, with our author as to his last statement. We well remember, when first allured into the study of comparative anatomy, and having no other work in our hands than the meagre production of Fyfe, being sadly puzzled to reconcile his statement of the absence of the inter-vertebral ganglia in fishes, with the doctrine of the "unity of composition," of which we were then, as now, most ardent disciples; we are now however satisfied that the statement is erroneous. On this head, we find the following explicit statement by E. H. Weber, in his very valuable work, Anatomica Comparata Nervi Sympathici."

"Omnia enim vertebrata, mammalia, aves, amphibia et *pisces* gangliis spinalibus instructa sunt, equibus nervi spinales auctiores, quam intraverunt prodeunt. Si nonnulli anatomici, et in his Arsuky, negaverunt, pisces gangliis spinalibus instructor esse, id duplici causa accidisse arbitror, primum, quia fortasse majore ganglia expectaverunt quam adesse possunt, propter exiguitatem

nervorem spinalium, deinde quia crassitiem nervorum spinalium cum exiguitate radicum non satis accurate cymparaverunt."

We hope our author will see the importance of examining this point more minutely, before the statement is again reiterated.

For the present, we part with Mr. Swan, hoping to see the present part of his "Illustrations" quickly followed by numerous successors, each of which, we trust, will rival its predecessor in faithful anotomical detail, with especial reference to all dissected points, and especially upon those bearing upon the physiology of the nervous system. Every anatomical student should possess this work.

THE EQUILIBRIUM OF POPULATION AND SUSTENANCE DEMONSTRATED; shewing on Physiological and Statistical Grounds, the Means of obviating the Fears of the late Mr. Malthus and his Followers. By *Charles Loudon*, M. D. Octavo, London. 1836.

WHEN practically applied, Dr. Loudon's demonstration and his principle will operate powerfully in exposing some of the delusions of the MALTHUSIAN SYSTEM: and, at the same time, they will exert a pure philanthropic influence in counteracting its inherent follies and falsities. According to the Doctor, there is no error in political economy so much calculated to retard the progress of civilization and welfare of the poor, as the idea that population is likely, by small allotments of land, to increase so much, that not only will the surface of the globe be covered with starving crowds of inhabitants, but that the greatest misery will prevail among mankind. Many visionaries have fancied that, when the earth is overspread with people, which they consider inevitable, men will be compelled to devour one another. Under this notion, and the dread of being unable to provide for offspring, certain doctrines have lately been promulgated, alike disgraceful to those who suggested them, and injurious to the interests of morality. Dr. M. therefore proposes a check, both moral and healthful, which, if necessary, might be applied to population; and, as this check is considered to be based on physiology, and founded on the laws of Nature, we will bring it fully under the observation of medical readers, who, of all others are the best qualified to appreciate such questions.

Dr. Loudon opens his essay by stating, that the increase of population, in these islands, is about ten per cent. every census often years; or, in other words, one per cent. annually: and that the periods of gestation and lactation, together, extend, nearly to nineteen months. The term of gestation has been fixed by Nature at nine months—that of lactation is generally arranged by the habits of particular nations; on an average, ten months is the usual time in this and most European countries. Mothers generally do not become impregnated during lactation; but, after making allowance for exceptions, if the period of lactation be prolonged only a very few months, increasing with the increase of population, and *vice versa*, the problem of the equilibrium of population and sustenance is solved—and on grounds which involve no disadvantage, either to mothers or their offspring. On the Continent, the average number of children to a

marriage is nearly 4·5; in England it is the same, If, then, by prolonging the time of suckling, this average were reduced to four, it is evident that population would remain stationary, because one half of our numbers dies between birth and the twenty-fourth year. With us, the average age of marrying is very near to that period (24 years); in France, it is twenty-six years—that of men being twenty nine, and that of women being twenty-four. Now, if we adopt these numbers for both sexes in England, and thus admit the time of marriage, for females to be twenty-four, and that of child-bearing to terminate at forty-four, the average interval between each child will be fifty-four months, or four years and a half. The next enquiry is—what increase of time beyond the ten months of lactation, would be necessary to keep population in check, as it advances at present in England? The reply is—admit, in every instance, the nine months of gestation, the ten months of lactation, and one-tenth of the remaining thirty-five months as an equivalent for the present increase of population, and the period to which suckling should be extended will be *thirteen months and a half*. To this, however, must be added six weeks, for the chances of impregnation taking place during the three months and the six weeks, on the supposition that this occurs once in three instances of lactation. Hence the Doctor concludes, the precise time will be fifteen months, or *one-third longer than the present number*. This extension of lactation, he adds, must necessarily increase the 4 5 years between each child approximating to 5, and, consequently, reduce the 4·5 children in a family to four: wherefore, since one-half of our numbers die under the age of marriage for females, the result will be—that there will remain only a representative for father and a representative for mother, on an average, in every family throughout the country.

With Dr. Loudon, we should like to know a physiological or other reason why our British mothers do not usually suckle their children longer than ten months. Certain it is, as the Doctor affirms, that the milk does not diminish particularly at that time, so far as regards the quantity; and from the health of children reared without spoon-meat beyond this time, as certainly it undergoes no change in its quality. Children are sometimes seen so old, before weaning as to be able to ask for the breast; and it has not been remarked that the health of mothers, thus suckling, was in any way worse than that of their neighbours*. Altogether, then, it may be asserted, that a mother is likely to enjoy better health, and to be less liable to sickness and death during lactation, than during pregnancy. Many women believe, or affect to believe, that the weakness they labour under arises from some latent moral or physical cause; but this weakness is not attributed to lactation in the earlier months of suckling, because the mother then considers herself fulfilling a necessary duty, which her constitution, for so long, is well able to bear. So soon, however, as the period of

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* This review is written by a talented physician of great experience and observation—and one of our oldest professional friends. We make this remark in order that the Editors may not be considered as responsible for every opinion broached in this article. We would here observe, that we have great doubts whether the generality of British mothers in high life—and even among the commercial and professional classes of society, would bear lactation prolonged to the extent which Dr. Loudon advocates. We imagine that such a plan would prove a greater check than is supposed by either author or reviewer. We think it would deteriorate the health of a large proportion of females of the present day. There is one other consideration which may be adverted to. Would not the interval of four or five years between each child leave a large number young and unprovided for, at a period when the parents were disabled, by age, to set them out in life?—EDS.

lactation has passed over, as it is established by custom or fashion, she imagines she is exceeding the intentions of Nature, and she forthwith concludes that the continuance of suckling is the cause of her uncomfortable sensations. This whim being entertained, the child is weaned, and too often becomes the victim of a most reprehensible delusion.

Since Nature has furnished the mother with milk for a longer period than custom demands, it is evident that some good purpose for the mother and child, was intended in this arrangement. Had it been otherwise, the Doctor infers, the secretion of milk would stop at a definite time, in like manner as the period of gestation is definite. That a child, in comparison with the young of the lower animals, is so long unable to provide for itself, strongly tends to corroborate the proofs already advanced—that Nature originally had in view a more protracted period for lactation, than is now allowed. Some writers, following the laws of Nature, as they interpreted these, fixed the period of weaning at fifteen months, when the infant has got its eight incisors, and its four canine teeth. There are well authenticated instances of mothers having suckled their children for three, four, five, and even seven consecutive years: we ourselves have known cases of lactation being prolonged for three and for four years, with the happiest results.

Dr. Loudon continues the illustration of his doctrine by observing—that the period of lactation has a great influence over the numbers of mankind in various countries, as is evinced by numerous facts. He adduces proofs of this position. Thus, he says, in China, where the population is excessive, and the inhuman practice of infanticide is condemned, they wean a child as soon as it can put its hand to its mouth."* On the other hand, the Indians of North America do not wean their children until they are old and strong enough to run about: generally, they are suckled for a period of more than two years. Hence proceeds the thinness of these tribes in a fertile country, when compared with other barbarous and even civilized nations.† Among the Charribean races, the population is also remarkable for the paucity of numbers in connexion with a similar extent of location; and what is of more importance still, such a number as seven or eight to a family is scarcely known. That a like cause exists for the decrease of the negro population in the West Indies, among both the Maroons and the *imported Africans*, is held by the Doctor to be highly probable. He considers this decrease as being more satisfactorily accounted for by protracted lactation, than by the cruelty so unjustifiably imputed to the planters by Mr. Howell Buxton, with the herd of his insensate and garrulous abettors.‡

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* Heretofore, as in modern days, when a people has advanced into a high state of civilization, it has ever happened that mothers have fallen insensibly into the guilty practice of renouncing altogether the duty of suckling their own offspring, or into the but little better habit of greatly shortening the term of lactation which, by fashionable matrons and their senseless imitators, is contemned as a vulgar encroachment on their pleasures and their ease. Hence it comes, that an overcrowded population usually accompanies the growing excesses of refinement and luxury.—*Rev.*

† The wandering life of the Indian, who subsits chiefly by the chase, is less favourable to increase of population than the life of the civilized settler, leading a life of agriculture, peace and comfort. The state of constant warfare, too, in which the Indian tribes live, as well as the continued encroachments made on their hunting tracks by the Europeans, must be a most effectual check on population.—*Eds.*

‡ Surely Dr. Loudon and the reviewer must allow something for the life which a *slave* leads beneath the pestilent skies of the Antilles, even under the

While Dr. Loudon thus points out a moral and healthful check to the overgrowth of population, with the object of allaying the dread of prospective misery, he does not intend to inculcate the practical adoption of his principle, under the actual circumstances of his country. We, however, would advise a gradual and discriminate adoption of this important principle, among those families who are obliged to use the medical or pecuniary assistance of clubs and parishes; and by encouraging such a course, their doctors would contribute greatly to the well-being of many industrious but improvident operatives, and also assist essentially in promoting the best interests of society.*

Those persons who have considered the relations of population to sustenance in America, Dr Loudon further abserves, must clearly see that the resources of mankind for the production of food, in the western world alone, are such as to meet every possible increase of population, for an indefinite number of ages to come. We cannot conceive to what extent the population, even of this country, may reach, without incurring the appprehension of a scarcity of food, as it is impossible to foresse the extent of the improvements which the progress of the arts and sciences will effect in agriculture.

With regard to those products which are strictly vegetable, the beet-root modern cabbages, potatoes, and Swedish turnips, are instances of immense crops arising from a small surface of ground. The improvements by drainage, spade-husbandry, and manures of various kinds, have greatly increased the quantity of grain, while the method of open and close stall-feeding will contribute exceedingly to the store of animal food. Besides, the extensive means of conveying fresh fish inland from the coast, and indeed every thing necessary for man, as well as agriculture, by the rail-roads now constructing, will speedily make important changes even in those districts where improvements were considered as next to impossible. Thus in a few concise notes, Dr. L. has suggested a diversity of subjects which, in all their bearings, ought to occupy a prominent place among the themes of medical investigation. Throughout his Essay, the Doctor maintains the bright character of an enlightened philanthropists, distinguished alike for his intelligence and sagacity.

Dr. Loudon has ascertained, that there are seventy-six millions and a half of acres of land in the United Kingdom, and thirty millions of these are waste; and, that one half of these thirty millions is capable of improvement. He finds, that each arable acre, yielding an average crop of potatoes, will produce thirty tons, or sixty-seven thousand two hundred pounds, of potatoes annually; which, being divided by the three hundred and sixty-five days of a year, will give one pound for each of four meals, or four pounds a-day, during the whole year, for forty-two persons. Hence, it is manifest that two millions and a half of acres of potatoes will permanently produce vegetable food for upwards of one hundred millions of people, or four times our present population; allowing the remaining seventy-four millions of acres to produce animal food, grain, and other commodities of sustenance, exclusive of what may be imported from our colonies and foreign countries. The Doctor abstains, as irrelative to his inquiry, from

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most kind-hearted master! But, even with all disadvantages, it is well known that the African population, especially in the southern states of America, increases considerably.—*Eds.*

* With this sentiment we entirely agree. Indeed every medical observer must be convinced that a considerable proportion of mothers in the better classes of society, wean their infants, or put them out to nurse, more for the indulgence of their own pleasure, than from want of health. It is thus the sons and daughters of our aristocracy are obliged to be quartered on the nation, in the same way that the offspring of paupers are thrown on the parish! So true is it, that extremes meet.—*Eds.*

pointing out the alternations and changes of the various crops, or how far it might be practicable to bring into cultivation even a large portion of the fifteen millions of acres represented as incapable of improvement. He refers to the authors who have written on the subject of sterile fields, and to the historical records connected with the immense populations of Egypt, Palestine, Greece, and Italy, in ancient times, as being calculated to furnish some idea of what can be done with lands of the most unpromising nature. He limits and directs our attention chiefly to two facts having intimate relations with medicine; one of these is physiological, the other dietetic; and, both of them exercise an incalculable influence on the happiness and welfare of every order of the state. The physiological principle of lactation, as effecting the increase or decrease of population, has never yet been demonstrated statistically by any previous writer on population or physiology. Dr. Loudon is the first to open the culture of this extensive field, and we would entreat of him to prosecute his investigations. The dietetic principle has hitherto been but little attended to, on national grounds; and the Doctor ascribes such neglect to a lurking apprehension, on the part of legislators, that there are no rational means appointed by Nature for suspending the advance of population, or of promoting its increase in geometrical proportions. We invite our readers, in their professional intercourse with all grades of society, to disseminate the knowledge of these two fundamental principles, and their momentous influences on the power, the peace, and the prosperity of nations.

ON ULCERATIONS OF THE CARTILAGES OF JOINTS.

FURTHER REMARKS ON THE ULCERATIVE PROCESS. By *C. Aston Key.* Surgeon to Guy's Hospital, and Lecturer on Surgery.

[Medico-Chirurgical Transactions, Vol. XIX.—Continued.]

OUR readers may remember, that in a former number of this Journal we brought under their notice a paper from the pen of Mr. Key, on the mode in which ulceration takes place in joints. We took occasion to differ from that able surgeon, for whom none can entertain more respect than ourselves, and to oppose opinions that we conceived to be hypothetical. Mr. Key is too much the man of science not to own that on scientific subjects free discussion is highly advantageous. Whatever may be the condition of the disputants, truth is always served by the free examination of opinions. To Mr. Key, then, we feel that no apology is due, for his object, the elucidation of the vital process of ulceration, will be equally promoted, whether his peculiar views prove erroneous or correct.

The see-saw of speculative doctrines has frequently attracted observation. The theory of one age, abandoned in the next, has been revived in the succeeding, and a few notions in the world of medicine have been buried so deep, that scientific resurrection-men have not been enabled to exhume them.

In the paper before us Mr. Key has dug up the exploded theory of ulceration, and presents it in new attire and a more seductive form. He endeavors to prove that ulceration is not a process of absorption, as is now

commonly believed, but an actual degeneration and resolution of the tissues —the ancient doctrine which was thought to be annihilated by the observations and reasonings of Hunter.

Mr. Key's arguments for this present heterodoxy seem when closely sifted to be these:—

I. The first step which Nature takes in forming an abscess, is a deposit of the solid or fibrinous part of the blood, either mixed with or free from the red particles, according as the action is acute or chronic. This solid deposit remains for a certain period unchanged, but at length becomes softer in consistence, and towards the centre exhibits all the characters of completely formed pus. The cavity thus formed either increases in size by the same process, or the sides of the cyst become organized, and secrete pus. Thus the fluid in an abscess at first is the product of a softening process; afterwards it is a secretion from the vessels of the walls of the cyst.

Supposing these statements strictly correct, they would go to support the views of Mr. Key. But we feel inclined to doubt whether the preceding can fairly be regarded as a correct expression of the ordinary progress of an abscess. Supposing, however, the fact to be accurate, how is the central lymph converted into pus? We cannot conceive any action, independent of the vital influence of the vessels, unless it be an action analagous to putrefaction. Does lymph out of the body resolve itself into globular pus? Is it not strange, that a solid removed from the operation of the vessels should spontaneously resolve itself into a fluid, exhibiting no more marks of decomposition than the lymph of which it is the debris, and precisely similar to the secretion from living vessels themselves? These are some of the difficulties that attend the explanation of the fact stated by our author, supposing that fact to have been observed correctly.

II. In many diseases, proceeds Mr. Key, the softening extends not only to fibrinous or tubercular deposits, but also to the organized tissues of the body; and under its influence large portions of vascular tissue become broken down and mixed with the purulent depôt. In the red hepatization of the lungs under pneumonia, the cells of the organ are infiltrated with a solid deposit in a sufficient quantity to render the lung solid, but still allowing the natural vascular tissue to be distinguished. In the more advanced stage of pneumonia, or the grey hepitization, the vacular tissue of the lung is no longer discernible; it is blended with the fibrinous deposit, and presents a uniform greyish solid mass. If time be allowed for the deposit to soften down, the natural text of the lung is found to have lost its consistence, and breaks down under slight pressure; and in many instances appears to be resolved into a puriform mass. The same train of actions may be observed in the chronic tubercular disease of the lung, and in the strumous disease of absorbent glands. In a scrofulous gland, the deposit of tubercular matter, the softening process, the gradual blending of the natural tissue of the gland with the scrofulous mass until it can no longer be distinguished; can each be clearly followed, until the whole is converted into a mass of pus, here and there intermixed with the debris of the original glandular structure.

Here, again, much must rest on the absolute accuracy of the observation. If Mr. Key is right in supposing, that the centre of an *unorganized* fibrinous deposite softens into pus, without the operation of living vessels, that

is sufficient to settle the question. But all turns, as we have said, on the absolute accuracy of the observation. Take the case of tubercle cited by our author. A small deposit is contained in a cyst, which no doubt is organized. Either the whole cyst excites irritation and suppuration around it, and is expelled, or the contents of the cyst soften, the cyst ulcerates, and the contents are expectorated. The latter is usually the case. In this instance, it is much more likely that a change should be wrought by a modification of exhalation and absorption from the interior of the cyst, than by simple resolution.

III. "Ulceration is a process analogous to the softening attending suppuration; it is a degeneration of tissue, a change in the affinities existing between its component parts, by which it becomes changed from a solid organized texture to a fluid inorganic mass. It differs from gangrene in being a vital action; while gangrene, by at once producing death in a part, prevents any such change taking place. In gangrene, the supply of blood to the part altogether ceases, while the integrity of tissue is preserved; under ulceration, the circulation in the vessels continues during the action, and the part still belongs to the living mass, and remains under the influence of vital action until its separation is completed.

Such disintegration of organized tissues, and their conversion into their original elements, is consistent with the usual operations of nature; and for animal structures to resume their former elementary state, and again to become the fluid of which they were originally composed, is by no means an unnatural transition."

"Ulcers of all kinds, if closely watched in their formation, clearly exhibit the breaking up of the tissue, and its gradual conversion into pus. In the earliest stage of an ulcer, before the vesicle has burst or the skin given way, the extent of substance lost is always compensated for by the amount of fluid formed. In its progress, when rapid, and when a large portion of structure is quickly destroyed by ulceration, a corresponding quantity of pus may be always seen to occupy its place; and when the action is more chronic, as in fibrous structures, the debris of the tissue can be seen mixed with the purulent fluid." 142.

The whole of the argument palpably rests on this proposition—that the tissue resolves itself into something like its constituent elements. But is pus any thing resembling the constituent element of *all* tissues? The pus from an ulcerating bone—a muscle—the skin, differs, cæteris paribus, in no material respect; yet the elements of those respective tissues display some very essential distinctions. What analogy is there between ordinary ulceration, and the softening in the centre of a fibrous deposite in phlegmon? It is too remote to present itself to us. To say that such disintegration of organized tissues, and their conversion into their original elements, is consistent with the original operations of nature—is to propose an inapplicable truism; for Mr. Key must first prove that the pus *is* the original element of bodies. The chemists will tell him it is a compound albuminous fluid, as compound as many employed in the economy, and more composite than some. When Nature resolves the tissues into their original elements, she never converts them into pus. Her operations, when left unrestricted, and watched in the dissecting-room, end in the produciion of substances, and the evolution of elementary components widely different from that.

"The supposition (continues Mr. Key) that nature carries into the circulating system noxious matters and poisoned tissues, which can be more effectually and more safely got rid of by other means, is carrying analogy beyond the bounds of probability. But if the formation of an ulcer be an act of absorption

the parts that are removed in the formation of a chancre are so disposed of; the absorbents, in forming a chancre, carry into the system tissues tainted by the venereal poison, and must therefore in every instance contaminate the whole mass of circulating fluids. That an action so deletorious to the system should uniformly accompany the formation of every venereal sore, is highly improbable and if it were so, a bubo ought to be one of the earliest accompaniments of chancre. But during the ulcerative stage of chancre, the glands in the groin usually remain free from infection: it is when the ulcerative stage is at an end, that the gland enlarges and bubo forms." 141.

Monstrous as the supposition in question may appear to Mr. Key, it is undoubtedly too true. Nature established absorbents for the wise and necessary purpose of renovating the structure of the body. If deleterious substances come in the way of those absorbents, their functions are not abruptly nullified, because an amiable and an ingenious physiologist imagines that they should be so. Put woorara in the the cellular tissue, or introduce into it arsenic, or the vaccine matter, or the small-pox virus, and observe whether the absorbents refuse to do the work, which Mr. Key thinks it beyond the bounds of probability that they should do. Nature acts not by partial but by general laws; and those laws are not drilled through and through by exceptions. Absorption is the rule; and, whether it be a worn-out muscle or a morbid poison, absorption more or less takes place. If to that absorption we owe the secondary effects of lues—to it we owe, also, the preservation of life by inoculation and by vaccination. There is evil, no doubt, but the balance is immeasurably on the side of good; and when Mr. Key can point out any general laws of nature from which individual hardship does not spring, then, but not before, we will admit that there is *some* force in his argument.

If Mr. Key had selected an illustration that would prove against himself, he could not have taken one more mal-a-propos than syphilis. He seems to think it absurd to imagine, that the absorbents forming a chance must, in *every* case taint the system. No doubt they must; and we do not doubt that they do. The majority of patients, under such circumstances, would probably have secondary symptoms of that taint, were there no means of counteracting it. Aye, but (replies Mr. Key) all do not have those secondary symptoms—therefore the virus is not, in all, carried into the system. The fallacy of this argument is easily shown. All who expose themselves to marsh miasma do not get marsh fever—all who are vaccinated do not get the cow-pox—all who are exposed to small-pox are not, and would not, be affected with it. Mr. Key, the great advocate of natural salutary efforts, would appear to overlook one very certain and very benevolent provision—that a certain number only of individuals are susceptible of the influence of any disease, and especially of morbid poisons. Some persons seem capable of resisting the action of the latter altogether—others are affected by them only in a modified degree. Some will not exhibit the cow-pox vesicle at all—others display an imperfectly-formed one. Some persons are not liable to syphilitic primary sores—others only have primary sores, and are not affected by secondary symptoms—the majority, perhaps, are prone to both.

We do not see to what Mr. Key's remarks on bubo tend, unless it be to shew that absorption has nothing to do with it. If it has not, we leave to Mr. Key to give us *his* theory of secondary symptoms. We would engage,

to use a legal phrase, to drive a coach and six, through any explation which rejects the active operation of an absorbing process.

Mr. Dey cites caries of the teeth as "a familiar example of ulceration." Yet Mr. Key must be aware that, by many, this has been regarded, not as ulceration, but as gangrene. Mr. Bell, for instance repudiates the idea of caries, and deems it mortification of the tooth. Be that as it may, we do not see the gist of Mr. Key's remarks on this head, nor how the caries of the tooth if it be such, supports his view of ulceration. For he concludes rightly, "that it is a living action, as no such change has been observed in a tooth after its removal from the body. Dead teeth do not decay." But, if ulceration be only disintegration, why should not such a change occur in a dead tooth? Resolution into its constituent elements is more likely to happen in dead tissues, than absorption is.

IV. "It is difficult to explain or to reconcile the action of some remedies with the supposition of absorption being concerned in ulceration. One of the most powerful remedies that we possess, and that exerts a remarkable control over the ulcerative process, is iodine. The most active phagedænic ulcers, that threaten the destruction of parts, are often found to yield in a surprising manner to the influence of this medicine, and to put on a healthy granulating appearance. And yet iodine is thought to act powerfully in increasing the action of the absorbents; tumours of considerable size often yielding to its action and becoming absorbed. How is it, that in the healing of an ulcer it checks and puts a stop to the absorbing process, and in the case of a tumour quickens the action of the absorbents and gets rid of the mass? Here are two actions of a remedy opposed to each other, and inexplicable so long as ulceration is regarded in the light of absorption. In the same person, and often on the same limb, we see the beneficial effects of iodine in the arrest of a spreading cachectic ulcer, and the absorption of a venereal node of periosteal effusion; two actions that present a paradox to those who view ulceration as effected through the agency of the absorbents. But the action of this and other remedies that arrest the progress of ulceration, is effected through another medium than the absobents; it would seem to depend on some additional nervous or vital power imparted to the ulcerating surface, by which its vital energies are reinforced, and which enables it to resist those repulsive forces that tend to disorganize it." 144.

If Mr. Key could prove that iodine was a great promoter of absorption, and at the same time one of the most efficient agents in checking rapid ulcerated action, we would admit that there was plausibility in this argument. But we differ toto cœlo from Mr. Key in his very premises. We deny that iodine is an efficient remedy in cases of phagedænic ulceration. Nay, we will go farther, and affirm as a general fact that idoine is one of the very worst remedies that could be administered in phagedæna. Our readers must observe that phagedænic ulceration may occur in circumstances diametrically opposite—in a state of system requiring depletion—and in a state of depression and extreme irritability. The former, so far as we have seen, is the exception—the latter is the rule. It is possible, that in the former, iodine may now and then be beneficial—we are certain that, in the latter, opium, the volatile alkali, stimuli, are the remedies to which the surgeon must trust. These are the remedies which build up, rather than pull down, and as reason would suggest their use, experience justifies it. On this point we can speak with the positiveness of careful and extensive observation, and here on the premises of the argument we are opposed to our author.

Let us turn to the application of the preceding arguments. It seems when compressed to amount to this—that in case of disease of an articu-

lation, when we find the synovial membrane vascular or a false membrane actually developed, and the cartilage partly dissolved, we should conclude, that the vis medicatrix naturæ developed the membrane, in order that *it* might absorb the cartilage, and prevent the occurrence of ulceration. Such appears to us, so far as we are enabled to appreciate it, the theory of Mr. Key. But we will subjoin his ipsissima verba, in order that we may not mislead our readers.

"The purport of my former observations on this subject, was to illustrate the mode in which nature effects the absorption of articular cartilage in some forms of disease, but especially in that chronic form of action usually regarded as strumous. My present object is to point out the difference between this mode of removing the cartilage, and the ulcerative or destructive process.

The distinction is one that cannot fail to strike the pathologist. The one is a repairing process, established with a view to the ultimate anchylosis of the joint, and by an efficient provision to prevent an inflammatory process that would otherwise end in ulceration and suppuration. A membrane is gradually developed, by the agency of which the cartilage is absorbed, and which afterwards becomes the medium of anchylosis; thus the destruction of the joint is often prevented.

But ulceration of the cartilage is effected in the same manner as an ulcer is formed in soft parts; it is a destructive action that sooner or later is followed by suppuration of the joint. It commences in the structure of the cartilage itself, which, no longer under the influence of those forces that unite its integral parts, breaks up and becomes converted into a purulent mass, which mixing with the synovia of the joint, irritates the synovial membrane to inflammation, and ultimately to suppuration and ulceration." 146.

It must be clear to any one accustomed to exact reasoning, that to render the hypothesis before us probable, two things must be established:—first the essential difference between ulceration and absorption—secondly, the fact, that such absorption is calculated to prevent ulceration. We will not go into the discussion at length, but will simply observe that we are called on to admit a great deal that is not proved, and some things that are not probable. It is not proved that absorption and ulceration do differ—it is not probable that Nature would set up an inflammation to prevent an inflammation, and go by a roundabout process to do that which she could, were such her intention, effect more simply and more efficiently.

Without entering the lists for exact reasoning in medicine, we would remark, that the majority of modern pathologists would adopt a simple and intelligible view of these states of absorption, and of destructive ulceration. They would be content to suppose that in the former case the disease was slighter, and in the latter more severe: and that from mere absorption of the cartilage, with very slight inflammatory action, up to destructive ulceration of the same tissue, with supuration in the joint, and caries in the bone, there extends a pathological chain, the links of which are sufficiently discernible.

Mr. Key in conclusion appeals to time as the best, the only test of truth. He is right. A few years will set all in the proper point of view, and if Mr. Key's hypothesis is really correct, our criticisms will assuredly be pointless. Yet, to the best of our judgement, they are sound, and certainly they are the offspring of conviction.

Periscope;

OR,

CIRCUMSPECTIVE REVIEW.

"Ore trahit quodcunque potest, atque addit acervo."

I.

SPIRIT OF THE ENGLISH PERIODICALS, AND NOTICES OF ENGLISH MEDICAL LITERATURE.

On Diseases of the Spleen. By Mr. Twining.

This disease is very frequent in Bengal, and in consequence of our frequent communication with the East, and the great influx of Anglo-Asiatics into this country, splenic enlargements are not very rare occurrences even on our own soil. We propose, therefore, to give here a very brief and condensed abstract of Mr. Twining's experience on this subject.

Vascular engorgement generally precedes induration of the spleen, and both states present symptoms of an inflammatory nature. Mr. T. has never seen suppuration of that organ. There is usually tenderness on pressure, in the region of the spleen. Acute inflammation of the peritoneal coat of the spleen is a rare disease in any country. Mr. T. seems to regard disease of the spleen not so much an idiopathic affection, "as one of the attendant phenomena on a peculiar constitutional disorder." The characteristic features of this disorder are general debility, pallor, deficiency of red blood in the capillaries—hectic blueness or pearl colour of the sclerotica — chlorosis of the visage, tongue, and gums. At a more advanced period, the circulation is languid, and the extremities cold—skin pale, shrivelled, and arid, or furfuraceous.

Tumid spleens are often borne with little apparent inconvenience, the individuals being able to walk about, and eat like other people. But the disease is most formidable in children, ending too often in general decay of health and progressive marasmus. Their breath has a peculiarly disagreeable odour. The disease is by no means confined to the natives. It frequently affects the Europeans, especially after fevers. Patients of this kind are very liable to sloughing ulcers from slight bruises or wounds. Blood drawn from splenic patients sometimes coagulates imperfectly, and presents no serum—sometimes the cruor is black and soft—seldom exhibits a buffy coat, except when pyrexia is present. The serum, when healed, coagulates as firmly as that of a healthy person. Many symptoms of scurvy are present in cases of vascular engorgement of the spleen;—such as tendency to hæmorrhage from various external and internal parts, &c. Most patients also labour under difficult respiration—impaired appetite—slow digestion—imperfect assimilation—despondency—inactivity, &c. In the absence of active pyrexia, the urine is pale and often copious. In the latter stages there is œdema of the feet, and sometimes of the face. In the majority of fatal cases, the patient dies of dysentery or ascites.

Splenic tumefaction sometimes takes place very suddenly in the course of remittent and intermittent fevers in Bengal, and in other low and marshy localities. Its extent is very various—sometimes reaching to the naval, or even filling the whole abdomen.

The post-mortem appearances are thus classified by our author.

"1.—A soft rounded enlargement of the spleen, the texture less firm than in the healthy state, and easily broken

if the finger be pushed abruptly against it. In some cases the part is so much softened, that it resembles a great clot of blood wrapped in a thin membrane: this varies in colour from black to brown or blue; and in the extreme degree of softening, when we attempt to lift the tumid spleen, the fingers are thrust through the membrane, and the organ breaks down in the hands, becoming a putrid gore. This soft globular enlargement from vascular engorgement of the spleen, most commonly attends, or follows, the severe remittent fever of the rains and cold season, when that disease attacks weak and unhealthy young persons.

2.—Oblong enlargement of the spleen; the organ being more firm in texture than in its natural state, its edge thin and notched; the color being sometimes a pale brown, though more generally a dusky red. This morbid change of structure would appear to be the result of more slow and gradual degeneration, which in its earlier stages has probably been attended with some inflammatory condition of the internal structure of the spleen; in such cases we also find evidence of superficial inflammation, attended with adhesions to adjacent parts more frequently than in the rounded enlargement from simple vascular engorgement.

3.—Opaque patches of various sizes: some of these extend over half the convex surface of the spleen, and are nearly 1-8th of an inch thick; they may be deemed the result of albuminous depositions during superficial inflammation.

4.—Adhesions of the peritoneal coat of the spleen to contiguous viscera; which adhesions are by no means a general result of tumid spleen in Bengal.

5.—In a few old cases, we find a more indurated friable spleen, that breaks when handled without much force, like a piece of old moist cheese.

6.—Still more rare is the firmer induration intersected with septa of condensed fibrous structure, to which we give the name of scirrhus.

7.—Tubercles of various sizes, generally small, and of grey or brown color.

8.—An organized coagulum in the splenic vein.

9.—Encysted tumors.

10.—Abscess of the spleen is said occasionally to occur: but I have not yet seen an example of suppuration in the spleen, in Bengal."

In respect to vascular engorgement of the spleen, purgatives combined with bitters and steel, have proved most useful. The following is Mr. Twining's usual formula:—

℞. Pulv. jalap.
—— rhei,
—— calumbæ,
—— zingib.
Potassæ supertart. āā ʒj.
Ferri sulph ℈ss.
Aquæ menth. sat. ʒx.
Misce.

An ounce and a half, (for an adult,) twice a day—at 6 in the morning and at 11 forenoon. It is said to act as a purgative, tonic, and diuretic.

The natives have a decided conviction that tonics are useful in enlargements of the spleen, and that the astringent effects of iron are produced in the splenic vessels by a kind of imbibition from the stomach.

In chronic enlargements and induration of the same organ, similar remedies appear to answer, but they are more uncertain in their effects. The following is a curious circumstance, if a fact. "If the tumid spleen be of a *globular* shape, an enormous degree of disease may generally be cured by the remedies already pointed out; but if the enlarged and indurated spleen be of an *oblong* shape, with a thin sharp edge, deeply indented with notches, a cure is much more difficult, and cannot generally be expected, except as the result of a careful and prolonged treatment, sometimes requiring the aid of a sea-voyage."

The daily application of leeches, at the beginning, is beneficial, when combined with the purgatives and tonics above-mentioned. To these must succeed blisters or issues. It is curious that hepatitis is very rare among the natives, though so common among Europeans in Bengal; while spleen-disease is extremely common among the *former*, and comparatively infrequent among the *latter*. The remedies are

the same for both. The natives use acupuncture and the actual cautery—and as the remedies are the result of observation and not of reasoning, they are not to be entirely despised. Mercury seems to have a most injurious effect in diseases of the spleen, producing extreme debility, depression, and exhaustion, with destructive salivation, ulceration, and sloughing of the gums, lips, &c. This circumstance renders very difficult the treatment of complications of hepatic and splenic enlargements. Mr. Twining passes a severe censure on Mr. Annesley for advocating the use of mercury in diseases of the spleen. We have no doubt that the spleen diseases of Bengal, like many other diseases of that part of India, differ considerably from the same diseases in the Peninsula, and especially in the Madras presidency. This may account for the discrepancy of practice between two experienced practitioners.

Cessation of Pulsation in several large Arteries of the Upper and Lower Extremities. By Mr. Ed. Crisp.

This is one of the most remarkable cases, of the kind, on record. We have had an opportunity of carefully examining the patient, through the kindness of Mr. Crisp, and shall now lay the particulars before our readers, omitting the minute details of daily prescription.

A young female, aged 22, of healthy parents, had had a severe attack of pneumonia about three years ago, under Mr. Crisp's care. Subsequently she was in service at Hackney, where she had been exposed to cold, and never considered herself as quite well after the pneumonia. She had head-aches, and occasional fits of hysteria.

Jan. 31*st*, 1835. She came under the reporter's care, complaining of pain in her legs and arms, with rigors followed by febrile action. Pulse small and 90 in number—bowels confined—tongue furred—pain in the epigastrium—menses regular. Aperients and febrifuges. These lessened the epigastric pains, but those of the lower extremities continued. On the 3d of February, Mr. Crisp was sent for, on account of severe pain in the stomach, with vomiting. The pain had left the lower extremities. She was bled to eight ounces, with relief. 4th. The pains returned in the extremities, and ceased in the stomach. 5th. Hands and arms cold, with tingling sensation in the fingers. *No pulse at either wrist*—heart and carotids acting strongly. On the 9th she was examined. Pulsation ceased about an inch below each clavicle—dorsal arteries of the feet beating forcibly at 90. 11th. The integuments of the right arm extremely painful. Dr. Whiting visited her, and found pain and tenderness, on pressure, along the main arteries of the arms. Ordered leeches below the right clavicle, and to have calomel and antimony.

13th. *No pulsation* could be felt in the dorsal arteries of the left foot, and indistinct in the popliteal. A thrilling sensation in the carotids, and *bruit de soufflet* over the heart. 14th. A slight vibratory movement felt in the radial artery of the left arm. 16th. Pain of left leg severe. 18th. No pulsation in either of the arms—ceases about three inches below Poupart's ligament in the left thigh. The foot and fore-part of the leg of a purple colour—tips of toes cold—profuse perspiration over every part of the body. 22d. *No pulsation in any artery of the extremities.* The toes and sole of the left foot black. March 6th. Since last report the pain has become excessive—very little sleep—pain in the region of the heart—bruit de soufflet—little and great toe of *right* foot black and painful. These were removed on the 8th March. We need not pursue the details of this curious case. On the 5th of October the left leg was removed below the knee. On slacking the tourniquet, there was very little bleeding from the large arteries—"*the blood not coming per saltum.*" The smaller arteries bled freely, and it was necessary to take up nine or ten of them. The leg was examined with great care. The large arteries were slit up, "but no trace of disease could be found

in them." "They appeared to be smaller than natural."

We examined this young woman on the 21st December, in company with Mr. Crisp and Mr. Hooper, and noted the following particulars.

The stump is nearly healed. The temperature of all the extremities is considerably below par. The left arm has the highest temperature. In it there is a very faint pulsation of the radial artery. In none of the other extremities could we detect any action of arteries by the finger or the stethoscope. The subclavian of the *right* side presented the loudest *bruit de soufflet* we ever remember to have heard. The same in the right carotid. In the right axilla no pulsation could be felt or heard. The *left* subclavian gave out considerable *bruit de soufflet*, but less loud than on the opposite side. In the left axilla, a faint pulsation could be heard by the stethoscope. The *bruit* in the *left* carotid was in proportion to that in the subclavian of that side. The action and sounds of the heart were perfectly normal. The muscular strength of the limbs corresponded with the temperature and state of the circulation. It was very weak in all the limbs, but strongest in the left arm, where some pulse was still perceptible.

The case excited considerable discussion in the London Medical Society—some of the members contended that the loss of circulation, or at least of pulsation, was a functional disorder, of an hysterical nature. Others maintained that there was a mechanical obstruction to the circulation, occasioned by arteritis or some other cause. Among the latter we ranged ourselves, and we have not the smallest doubt that a mechanical obstruction of the circulation exists.

In consequence of the interest excited by this case, we have tried back for illustrations. The following is the result of our researches, though doubtless a more diligent inquiry would disclose many more examples of an analogous kind.

Dr. Parry, in his work on the pulse, page 140—says that he has met with twenty instances of cessation of the pulse—some terminating fatally, others favourably, after a longer or shorter period. Only one dissection, however, is given.

"A female, affected with severe cough, was apparently convalescent, when it was discovered that the pulse in one arm was wholly wanting. A few days afterwards she died suddenly.—*The whole course of the aorta* was carefully examined; but no deviation from the healthy state could be perceived in it."

In the 19th vol. of the Med. Chir. Rev. p. 285, a curious case is communicated by Dr. Ferguson, of the 5th Regiment of Foot. A young, but delicate soldier, was sent on escort duty in Ireland, where he got thoroughly drenched with rain. On his return, he was seized with violent pneumonia, accompanied by distressing palpitation of the heart, and a *total absence of pulse in both wrists.* The action of the carotids, in the mean time, was unusually strong. The inflammation of the lungs was subdued, but the abolition of the pulse in both the upper extremities continued many months afterwards, when the case was communicated to Dr. Johnson. During this time he was unable to do any duty, and could take very little nourishment, yet he did not lose flesh. He was subject to severe pains under the sternum, with sense of suffocation, and livor of the countenance.

Morgagni quotes a case from Ramazini, of a young man in whom abolition of pulsation in all the arteries existed for four days. During these four days he was cold and passed no water. He died, but no dissection is given.

In the Medico-chirurgical Review for December, 1822, Dr. Johnson has given an account of a case of non-pulsation in all tangible arteries, except the carotids, where a very faint pulse was felt. On examining the heart, no action could be felt or heard in that organ! The patient laboured under hydrothorax, ascites, and anasarca. The pulse returned on the third day, after brisk purgation, and considerable diuresis. He died, and presented dropsy of chest and abdomen, with organic disease of the heart. The pressure of fluid was supposed to embarrass the action of the

heart, and prevent the evidence of pulsation there, or in the arteries for a time.

The first thing that attracted John Hunter's attention to his own case, was temporary loss of pulsation in the wrists. In one of these states, he happened to look in a glass, and perceived that his face was like a corpse. He died in one of these attacks, and it was found that he laboured under angina pectoris. The heart was small and flabby—the coronary arteries and mitral valves ossified.

Sir B. Brodie mentions a remarkable case in his lectures. "A man was walking on a hot day through Batterseafields, when he experienced pain in the lower extremities, one of which was more affected than the other. The pulse disappeared in this extremity—the foot mortified—became dry, hard, and horny. The mortification reached to the middle of the thigh, and there stopped; but the man died in St. George's Hospital. On dissection, both artery and vein were found inflamed, from the middle of the iliacs to the middle of the thigh, and their canals filled with coagulable lymph."—*MS. Lect.*

Sir B. B. quotes a case of this kind from Saviard, who amputated, but had not a single artery to tie, all being choaked up with coagulable lymph.

In the 4th vol. of the Med.-Chir. Rev. there is related a remarkable case of non-pulsation in all tangible arteries during a period of 24 hours. The gentleman (Mr. Lowndes) is now residing in the Haymarket. From excessive urethral irritation, a most serious constitutional disturbance was set up. The pulse disappeared from all tangible arteries—the extremities were cold—the fingers blue—breathing short and laborious. On careful examination with the stethoscope, in company with Mr. Thomas of Leicester-place, only an indistinct fluttering of the heart could be perceived—and no action of any of the arteries. The patient was, in fact, in the same condition, as respects the circulation, in which so many thousands of people have been found during the late epidemic cholera. The heart was clearly in fault in this case—and stimulants restored the circulation at the end of 24 hours.

In the 19th vol. of the Med.-Chir. Review, p. 207, the following case is related from the *Archives Générales*.

A girl, 17 years of age, became affected with pain in the right lower extremity, and she entered La Charite 14 days after the commencement of the complaint. On examination, no pulsation could be perceived in anterior or posterior tibial artery, nor in the popliteal artery. The disease ultimately ended in dry gangrene and death. On dissection, the crural artery from the groin to the ham, was converted into a hard cord, plugged up by a coagulum. There were marks of arteritis in various parts of the arteries of this extremity.

In respect to Dr. Parry's case, it is hardly necessary to remark, that the examination of the *aorta* led to no satisfactory results. It was like exploring Fleet-street, to find out the cause of an obstruction in Holborn!

On the Functions of the Fœtal Kidney. By Robert Lee, M.D.

There is no positive information, Dr. Lee observes, in our systematic works on physiology, respecting the function of the kidney previous to birth. All the glands employed in thedigestive process have considerable volume in the fœtus, and may be supposed to possess some activity. Abernethy did not think that the fœtal kidney secreted urine. The following fact is brought forward by our author, as decisive of the question.

"On the 2d of January, 1835, Mr. Hay, of Osnaburgh Street, attended a patient who was delivered in the 8th month of a still-born female child. It had a double hare-lip, both its feet were clubbed, and the abdomen was so large that it passed with difficulty through the pelvis. Mr. Hay examined the body on the following day, and he found the distention of the abdomen to arise from an accumulation of fluid within the kidneys, produced by an impervious state of the ureters. The right kidney, which resembled a thin cyst filled with

a watery fluid, was larger than the head of the child, the left did not exceed half this bulk. Both kidneys were removed from the body without the fluid they contained having escaped, and were in that state presented to me by Mr. Hay. An opening having been made into the pelvis of the left kidney, giv. of a fluid resembling urine flowed out; the pelvis of the right kidney contained nine ozs. of a fluid having the same appearance, which was examined by Dr. Prout.

The following letter from Dr. Prout contains an account of the chemical composition of this fluid.

'DEAR SIR,

I send a short account of the fluid from the kidneys of a fœtus in whom the ureter was found impervious.

The fluid was of a deep brown colour, somewhat like diluted porter or table beer, transparent, and without any remarkable smell. Specific gravity about 10·12. Very slightly acid. On exposure to heat, it became opaque and deposited flakes of albuminous matter, which was next examined by the addition of an acid. The deposit was of a deep brown colour. The separated fluid was nearly colourless, and deposited on cooling a considerable quantity of lithic acid crystals.

When evaporated to dryness and treated with alcohol, that menstruum was found to take up a principle strongly acid, and which assumed readily an imperfect crystallized form. I cannot venture to give this principle a name; it somewhat resembled the acid called amniotic, or rather allantoid, in some of its properties, but differed from it in others. The alcoholic solution gave at first faint and somewhat doubtful traces of urea; on standing several days these became very distinct. After the albuminous matter was separated, ammonia produced a deposition of triple phosphate.

These results prove beyond a doubt that the fluid was of an urinary nature, and render it probable, that as the liver in the fœtus secretes bile, so the kidneys secrete urine long anterior to birth; and that in a perfect state of the organs the fluid is constantly escaping through the bladder and mixing with the amniotic. This fact has been often suspected, or rather taken for granted, but has never to myknowledge been proved.

I send a portion of the fluid containing a deposition of lithic acid crystals.

Yours,

Sackville Street, W. PROUT.'
Jan. 9, 1835.

On the 12th February, 1835, Dr. Lee induced premature labour for a deformed pelvis, in a case of six months' pregnancy. Thirty-two ounces of pure liq. amnii flowed through a silver catheter. It was of a straw colour, neither acid nor alkaline. Neither Dr. Bostock nor Dr. Prout could discover any urea or uric acid in it. This renders it probable that, at six months' utero-gestation, a very small quantity, if any, urine is formed by the fœtal kidney.

Mr. Howship has pointed out some curious cases from his treatise on the urinary organs, where urine was found in the bladders of children born before the full term. Sir B. Brodie also communicates a case which seems to decide the point. A male fœtus was brought into the dissecting room, of nearly the full time. The external orifice of the urethra was impervious, and the bladder was found to be moderately distended with urine, as were the infundibula and pelvis of each side. The urine was examined by Mr. Brande, who proved that it contained the usual properties of urine, except uric acid. Other instances are also quoted. The inquiry is curious in a physiological point of view.

THE RUSSIAN PUZZLE.—"PERICARDIAL EXUDATION."

Under the latter title, Dr. Seidlitz, of St. Petersburg, has described a disease which, we are confident, no one has either seen or described in this country. Our indefatigable contemporary (the BRITISH and FOREIGN) has ferreted out, with transcendental olfactories, this precious morceau of pathological novelty, and from his pages we shall

quote one of the cases as a specimen of the whole.

"Towards the end of February (1831), a sailor, aged 27, of a muscular habit, was seized with an unusual degree of lassitude after a hard day's work. A peculiar sense of anxiety caused him repeatedly to start out of an unrefreshing slumber. Tightness of the chest ensued on the following day. The præcordia seemed the primary seat of distress, from whence an obtuse pain radiated over the whole anterior surface of the thorax, and concentred itself on the second day (that of his admittance at the hospital) in the right hypochondriac region. Both these places were impatient of touch, which, without precisely causing pain, seemed to the patient to impede his breathing. The countenance was bloated, of a bilious hue. The breathing was regular, but superficial; deep and full when the patient exerted himself, and attended by neither pain nor cough. Pulse very frequent, and very indistinct (suppressed, unterdrückt). Pulsation of the heart imperceptible to the hand, and scarcely audible. The patient was perfectly conscious, but morose and torpid, preferring to lie flat on his back or on his left side, and with his head low. He denied having been attacked with rigors or with febrile heat. VS. ad ℔. jss. Blood buffed, yielding a large proportion of serum. A solution of nitrate of potash with tartarized antimony, and saline clysmata, were administered. The latter produced several stools. The night was passed more tranquilly, although but with little sleep. The pulse had now become less frequent and more developed, but the pulsation of the heart was more indistinct. The countenance was expressive of great anxiety, but still nothing was complained of but an entire prostration of strength. The temperature of the skin underwent frequent changes from moderate warmth to a marble-like coldness, accompanied by a cold sweat. Action of the kidneys regular. Four cupping-glasses were applied to the region of the liver, and the saline potion and clysmata repeated. On the morning of the fourth day, the patient's apathy had increased: alternately groaning and sighing, he evinced a great dislike to be interrogated. Pulsation, both of the heart and arteries, was no longer distinguishable; the lips were blue; face and extremities of a marble-like coldness. Whilst Dr. S. was in the act of examining the abdomen, the patient suddenly applied his left hand to his head, then to his chest, stretched his eyelids wide asunder, and expired. In the next moment the pupils became strongly dilated. An incision was instantly made into the swollen jugular veins, from which the blood issued in a small stream. Respiration was at the same time artificially sustained by alternately compressing the thorax, and again allowing it to expand, but in vain.

On the thorax being opened, the eye was struck with the extraordinary size of the pericardium, and with its livid appearance, owing to the translucent fluid wherewith it was distended. An incision being made into this membrane, from four to five pounds of fluid escaped, having the colour of dark venous blood and the consistency of a decoction of marsh mallows. The entire absence of crassamentum disproved this fluid to be genuine blood, whilst the fact of its coagulating through the influence of heat, showed it to consist of the albuminous serum mixed with the colouring matter of the blood. The inner surface of the pericardium was tinged of a dark blue red, and lined with a coat of villous, granular fibres, of the same colour, which lining was easily separated from the pericardium, and had rather the character of a deposit from the fluid than of the false membranes which attach themselves to the pleura in exudatory inflammation of the latter membrane. On removing the above fibrous layer, the envelope of the heart appeared of the same blue red colour; its surface smooth, shining, and sound. The substance of the heart itself was dark red and very firm. The compression by the extravasated fluid had reduced the volume of the heart to the size of a man's fist, and its four cavities to a mere nothing. The abdominal organs were healthy, although

the veins were here, as well as in the thoracic cavity, gorged with blood."

Another case is related, where, on opening the thoracic and abdominal cavities, several pints of blood flowed away—and in the pericardium itself were four pints of bloody fluid, without crassamentum. There was a coat of fibrine on the peritoneal surfaces, but the membrane itself was sound.

At a later period (1832) some cases were successfully treated by depletion and derivatives.

Our readers, we think, will agree with us, that the above disease is a puzzle. It more nearly resembles the BERRIBERRI of India, than any other disease with which we are acquainted. It is a peculiar cachexy, which we are not likely to witness in this climate, and must be owing to causes of which we are entirely ignorant.

TEMPERATURE OF DIFFERENT PARTS OF BODIES IN A STATE OF DISEASE.

Messrs. Bequerel and Breschet have made a number of experiments on the foregoing subject—though we confess that we can see little other object in such experiments, except the gratification of curiosity. And, considering the numerous grave subjects in physiology, pathology, and therapeutics, which yet remain open to investigation, we are rather surprized that the more important inquiries should not take precedence of the less important. Mias, chaque à son gout. We shall state one or two experiments. A man had typhoid fever, complicated with bronchitis. The temperature of the mouth was 102°—while that of the biceps muscle of the arm was about a degree and a third higher. Again. A woman had a cancer of the breast. The temperature of the mouth was 98°—ditto the cancer—ditto the biceps muscle.

Now, we do not deny that these may be very important physiological facts. All we can say is, that we are too dull to recognize their importance. Perhaps some of our readers may be more fortunate.

ANOMALOUS CASE OF LITHOTOMY. BY PROFESSOR LIZARS.

A surgeon attached to a large hospital has peculiar opportunities for improvement, and he fails of his duty, if he either neglect them, or conceal the useful results of his observation and experience. Success, though it flatters vanity, is at best an equivocal proof of merit, for it may happen to the rash and unskilful. Successful cases, in ordinary circumstances, when published, afford but little information; timidity may be unwilling to divulge the unsuccessful, but these are for the most part our proper instructors; from these we learn whether nature or art is the more to be blamed for any untoward event; but whether successful or unsuccessful, those cases are invaluable which lead to the detection of such morbid deviations as would certainly occasion the death of a patient in the hands of an irresolute operator. Of this last class is the following case.

Jas. Brown, a healthy-looking man, fifty nine years of age, entered the hospital on the 29th December last, and presented the usual symptoms of stone in the urinary bladder, under which he had laboured during the last eight months. He had been in this hospital seven months ago under the late Professor Turner, who sounded him, but detected no calculus. The day after his admission he was carefully sounded, but no stone was felt; the bladder was rough and fasciculated. He was ordered warm baths, leeches to the region of the pubes, the mistura aquæ potassæ, the uva ursi, and a seton over the pubes. By these means all irritation having been subdued, he was again sounded, and a stone distinctly perceived. A dose of castor-oil was administered; and on the following day the lateral operation was performed.

All the preliminary steps having been taken, and the existence of a calculus again ascertained, a large staff was inserted, which could not be made to pass the prostatic portion of the canal. A smaller staff was next employed, which apparently entered the bladder, as its handle was loose and moveable. One of

my colleagues held it over the pubes, whilst I commenced, and cut down to the membranous portion of the urethra. I then proceeded seemingly through the left lobe of the prostate gland, which was hard, cartilaginous, and studded with calcareous deposition. The left fore-finger, which guided the lithotomy knife, seemed to enter the urinary bladder, and a little fluid, considered to be urine, flowed out, when I begged the staff to be withdrawn. I next inserted a pair of forceps; but instead of a calculus such as the sounding had led me to expect, discovered nothing but calculi, varying in size from that of a millet-seed to that of a pea. I now used a searcher, but was not more fortunate. My finger felt a pouch equal in magnitude to a urinary bladder, which contained numerous small calculi. One of my colleagues, at my request, introduced his finger, and the sensation communicated so nearly resembled that of a mucous membrane, that he suspected I had wounded the rectum, but convinced himself of the contrary by examining that viscus with the forefinger of his other hand. Another of my colleagues was also requested to examine, and he with a scoop, removed some of the small calculi already mentioned.

I now inserted a catheter, which passed the entrance of this pouch, got into the bladder, and urine flowed out. The catheter was replaced by a staff, along which the knife was carried through the neck of the bladder, as there was no substance like prostate gland, and a stone of the size of a flattened plum was instantly extracted.

The first incisions into the pouch occupied about one minute. The second incision and extraction of the calculus about another minute. From fifteen to twenty minutes were spent in examining this pouch.

The patient has had no bad symptom —no case of lithotomy ever went on more favourably—and this is now the tenth day from the operation.

The anomalous pouch, which rendered this case so complex, seems to me to have been nothing more than the external fibrous capsule of the left lobe of the prostate gland gradually dilated, until it became as large as the bladder itself.

Crosse, in his work on Urinary Calculus, p. 34, says, "Concretions in the prostate gland, commencing in its ducts, often at a distance from their urethral orifice, even at the very bottom of a duct, go on increasing until each duct is enlarged into a pouch, rendering an escape of the concretion into the urethra impossible; the narrow orifice by which the pouch communicates with the urethra becomes often closed, in consequence of inflammation and effusion of lymph; the pouch is a secreting cavity which furnishes additional deposit; and as the concretions enlarge or multiply, the pouch enlarges in the direction of where there is least resistance towards the lateral or posterior surface of the prostate gland."

Wilson, on the Urinary Organs, at page 353, also observes, "I have met with a urinary calculus larger than a common-sized olive in a cavity of the prostate gland, where, from the orifice which first admitted it having contracted, or the size of the calculus having enlarged, the stone could not be pressed back into the urethra, and the whole of the prostate gland had been changed into a capsule surrounding it."

I possess a preparation in my museum with cysts exterior to the urinary bladder, one of which may hold from four to five ounces. These communicate with the bladder. Another preparation where the right lobe of the prostate gland forms one capsule.

I confess freely that I was not prepared for the complication just described, nor am I ashamed to confess it, since no mention is made of such an anomaly in the writings of the most eminent surgeons, if we except Crosse and Wilson, from whose works I have quoted above, but which I had not seen.

JOHN LIZARS.

Edinb. 38, *York-place*,
21*st Jan.* 1836.

ST. THOMAS' HOSPITAL REPORTS. By JOHN F. SOUTH, Assistant-Surg. No. I, November, 1835, pp. 118. Sherwood and Co.

We rejoice to see that one of the largest, and certainly the most ancient, hospitals in this metropolis, has come to the determination to publish the reports of cases, both medical and surgical, in an authentic form, and under the superintendence of a responsible editor. This plan, upon the whole, must ensure the greatest proportion of good, attended probably with the least modicum of evil. The WHOLE TRUTH may not always be told in each particular case, or perhaps some cases may be occasionally (prudently) omitted—but still the public is secured against false statements, or statements too highly coloured by friendship or enmity. Guy's Hospital follows the example of its neighbour, and has published its first Number on the 1st January last. We shall make our readers acquainted with both reports in our present Number.

MEDICAL REPORT 1.—DROPSY.

"*Dropsy terminating in Profuse Diuresis.** William Crane, æt. 33, coal-porter, admitted into Jacob's Ward, August 27th, 1835, under Dr. Burton. Of large frame, but with pale and flabby fibre, is the subject of hepatitis, ascites, and anasarca. It cannot be ascertained whether there be any enlargement of the liver, on account of the swollen state of the abdomen, but from the symptoms there can be no doubt, at least, of functional derangement of that organ. Respiration is free, and there is no sign of organic disease of the heart. He has not any pain in the loins, nor deposition in the urine. The absorbent glands of the neck are greatly enlarged, forming a kind of collar, which extends from ear to ear. The thighs and legs are much swollen, and the latter are in a state of considerable diffused inflammation, with dirty-looking ulcers on them, around which are scattered pustules; these he ascribes to the use of a wash he had applied when under treatment in a hospital, from which he was discharged about three weeks since. He is able to walk about, and does not complain of pain in the cavities, except when pressed on the region of the liver. He was put on milk diet, and ordered *Hyd. subm. Pulv. digit. Pulv. scill.* āā gr. j. *ter die. Infric. Ung. iod. abdomini.*

Aug. 31. *Ung. iod. mit. gland. cervic. infricand.*

Sept. 2. The medicine having acted rather sharply on the bowels, it was discontinued, and the following prescribed.—*Pil. hydr.* gr. ijss. *Pil. scill.* gr. ij. *omni nocte. Tinct. scill.* ℥xx. *Sp. æth. nit.* ʒj. *Dec. tarax.* ʒij. *ter die.* This was continued till

Sept. 16th, When, in its place, was ordered *Liq. Potass. hydriod.* (*Lugoli*) ʒij. *ex Dec. tarax.* ʒiv. *ter. die.* This was continued without any change occurring in his condition till

Sept. 20. On this morning he was suddenly attacked with vomiting and cold shiverings, succeeded by great heat of skin and profuse perspiration, and, when visited by the apothecary, the shiverings, heat of skin, and perspiration were found co-existing—the respiration natural as to frequency, but very laborious, and attended with loud, grating, sibilous and mucous rattle. The inflammation of the left leg had extended up and along the inner side of the thigh, and presented a livid appearance; an enlarged gland, also, on the anterior edge of the left arm-pit had become very red and painful. He makes no complaint, but, when asked, says he has some pain in the chest; and he answers questions hesitatingly, which is not his usual manner. There is neither pain in the head, nor greater heat on it than that of the general surface—there is no injection of the conjunctivæ, and the pupils are not dilated, but contract on the approach of light. He vomits frequently—bowels have been twice moved. Within the last two hours, he has passed about a quart of urine, exhibiting the appearance of

* Reported by Mr. Stone.

chalk and water. *Omitt. medicam. præced.* ℞. *Tinct. opii*, ♏xxv. *ex Mist. camph. stat., et Mist. effervesc. 2dâ vel 3tiâ quâque hor. si urgeat vomitus. VS. ad* ʒxvj.

Evening. Breathing considerably relieved, and he answers questions with less hesitation. He has passed urine in excessive quantity throughout the whole day, amounting to a common-sized pailful and a half, which has the same appearance of dirty chalk and water. Four about five minutes after the urine is passed, it remains perfectly clear, but then becomes gradually turbid. He has had several very liquid dejections, of the same dirty chalky character, but containing some bile; and he has vomited several times throughout the day, matter of the same character and appearance. The blood is much buffed, cupped, and so firm as to retain the impression of the finger, which is with some difficulty forced through the coagulum. He expresses himself better.

Sept. 22, *Morning.* He continues passing urine in still larger quantity, a great portion of which has been thrown away, but there is now a pailful standing by the bedside, of the same kind as that already described. The vomiting and purging also still continue. Breathing has again become more laborious. The perspiration and heat of skin are excessive. He appears partially soporose, but the pupils act freely, and he is quite conscious. Pulse about 100, full and firm. *VS. ad* ʒxij. *Addant. Acid. Hydrocyan.* ♏ij. *Tinct. op.* ♏viij. *dos. sing. Mist. efferv. Cat. sinap. epigastrio.*

The vomiting and purging continued throughout the day, and the urine was still passed in immense quantity. Towards evening the perspiration became cold and clammy—the pulse smaller and quicker—the breathing more difficult—countenance anxious—he became restless and unconscious, and expired about 7, P.M. The anasarca of the thighs and legs was somewhat diminished, but the abdomen retained its fulness. Sister states that this morning she noticed the swellings in his neck had considerably subsided since yesterday, and towards evening his neck had become quite thin.

The friends would not allow an inspection.

The following is the report of the chemical examination of the urine, by Mr. Sandell:

The urine, containing an immense deposit, was of a yellowish-white colour, very acid, and having a specific gravity 10·47, but some voided the same day was only 10·38 at 60° Fahr.

Filtered, and the *urine* tested for albumen gave only a trace."

"There were then in the sediment—

Animal matter,	Magnesia,
Ammoni,	Phosphoric acid,
Soda,	Muriatic acid,
Lime,	Lithic acid."
Potash,	

Report 2.—Delirium Tremens.*

"Henry Grey, æt. 39, admitted into Luke's Ward under Dr. Roots.

Aug. 9, 1835. A man above the ordinary stature, and of rather robust habit. From his mother's account, it appears that, for the last twenty years, he has been subject to fits, in which he falls down suddenly, perfectly insensible, with convulsive movements of his limbs, and remains in this state for a few minutes, or, at the most, for a quarter of an hour. He does not bite his tongue nor foam at the mouth, but, after the fits, discharges large quantities of flatus from the stomach. It is also stated, that occasionally he does not fall down, but walks some distance perfectly insensible; and that since the occurrence of a very bad fit twenty years ago, he has dragged his right leg after him, both, however, being weak. About three years and a half ago, after being in a state of intoxication for three successive days, he had an attack similar to the one about to be described, but more severe. He has lately been in bad circumstances, which appear to have acted very much upon his feelings. On

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* Reported by Mr. Gibson.

Thursday (August 6th), he took a bottle of wine; on Friday, he was not perfectly rational; on Saturday fell down in a fit, and from that time his delirium has been on the increase.

When admitted into the Hospital his skin was hot—forehead bathed in perspiration—continually delirious, talking incoherently, and repeatedly uttering the same words over and over again. His face was flushed—eyes brilliant—pupils rather contracted, and contract still more at the presence of light. Countenance not much altered from the natural state, but frequently animated by a laugh at his own jokes. He says he feels no pain in his head or elsewhere, except in his feet, which, by the medical man's direction, previous to his coming into the Hospital, were to have been placed in warm water, but, by the want of care of his attendants, were immersed in very hot water, which completely blistered the greater part of them. All his toes have some portion of the cuticle separated from them, together with large blebs on other parts, and he seems fully aware of their condition. His tongue he puts out after a little solicitation; it is very slightly coated, and rather dry. There is no tenderness of his abdomen, but it is rather tumid at the lower part, and he discharges much flatus per anum. His bowels were operated on by medicine before his admission, and he was likewise bled twice, and had leeches on his head. Pulse 120, full and admitting of pressure. *V.S. ad* ʒxvj. *Lot. frigida capiti. ℞. Hydrarg. submur.* grs. iij. 6*tis horis.*

Aug. 10. He passed a very restless night, was delirious and raving at intervals. His head and skin are very hot, and bedewed with copious perspiration. He complains only of his feet, and strongly entreats every person who comes near him to loosen the straps by which he is confined to the bed. It should have been stated that he was brought to the Hospital in a straight-jacket, and has remained in one ever since, and has also been fastened to the bed by leather straps. Tongue is clean and a little moist; pulse 120, rather jerking.

Evening. He continues much the same, has been raving and talking indecently and loudly all the day. *CC. ad* ʒviij. *occipiti. Glacies capiti raso applicanda. ℞. Morph. mur.* gr. ss. *Hyd. subm.* gr. iij. 4*tis horis.*

Aug. 11. For the first hours of the night he had only a few seconds' sleep, and would then awake, and rave most furiously, but towards morning he had three hours and a half's rest, and when he awoke appeared better. He is now much quieter, is more rational, appears to know some of the events of the preceding day, still, however, wanders a little, but the furious delirium has quite gone off; he became tranquil after taking the two first doses of morphia. His skin is hot—face not so much flushed—pupils rather contracted in the dark. He says he has a little pain in his head. Pulse 116, full and soft; tongue clean and moist; bowels open. *CC. ad* ʒviij. *occipiti.*

Aug. 12. He passed a pretty good night; slept very well, but wandered at intervals. He is now sensible—answers quite correctly, but at times talks incoherently. His skin is quite cool—countenance not flushed—pupils contracted. He says he has no pain in his head, but feels drowsy and languid. His hand trembles a little when extended—tongue clean and moist—bowels open—pulse 86, rather full. To be released from confinement. *Sumant. hyd. subm. et Morph. mur.* 6*tis horis.*

Aug. 13. He did not pass quite so good a night; there is more heat of skin to-day and more general excitement—he wanders a little at intervals, but is nevertheless very quiet—countenance rather flushed—pupils very contracted—no pain in his head—mouth sore—tongue clean and moist—bowels relaxed—pulse 88, fuller, and having some jerk about it. Feet very painful. *Omitt. Hydr. subm. Cat. pan. pedibus. applicand.*

Aug. 14. Passed a very good night, but continues much in the same state. Pulse 82, not so full, but somewhat jerking, *Jusc. bov.* Oj. *quotidie. Morph. mur,* gr. ss. 8*vis horis. Cat. pan.* ⊂ *Lot. plumbi, pedibus.*

Aug. 15. Passed a very bad night, and was very restless, tossing about his

bed, and talking very loudly and incoherently, and becoming so violent as to compel the attendants to put him under confinement again. Skin rather hot—face slightly flushed—pupils contracted. He took this morning *Morph. mur.* gr. j. after which he had some sleep, and is now pretty quiet. Tongue moist and clean—bowels open four times during the night and once this morning—pulse 94, rather fuller and jerking. *Morph. muriat.* gr. ss. 4*tis horis*.

Aug. 16. Passed a very good night and is quiet to-day, but he wanders a little occasionally. Face not flushed, but pupils still contracted—tongue moist and clean—bowels relaxed—pulse 90. Feet very sore, but not quite so painful. ℞. *Mist. cret. comp.* ℥jss. *post. sing. sed. liq. Applic. Ung. zinci. pedibus.* To be again liberated."

From this time the man gradually recovered. Dr. Roots has appended a valuable running commentary on this case—and on delirium tremens generally, which is deserving of careful perusal.

Lectures on Medical Statistics. By Robert Graves, M.D.

We extract the following observations from one of a series of excellent clinical lectures, delivered by Dr. Robert Graves, and published in our contemporary, the London Medical and Surgical Journal.

Chances of Life.

As a general fact it may be stated and admitted, that of a given number of children born in this country, one-third die before one year, one-half before the eighth year, two-thirds before the thirty-eighth, and three-fourths before the fiftieth year. But such general facts are drawn from data in the mass, and must necessarily include facts which differ toto cœlo from each other; for averages of course include opposite extremes in their expression. Dr. Graves relates two interesting opposing facts.

"On Patrick's day, in the year 1782, nine students walked from Trinity College, Dublin, to Bullock, where they dined. In 1833 eight of them were still alive, and I have not heard of the death of any of them up to the present period. I mentioned this fact the other day to a very fine old gentleman aged seventy-six, and he observed that he could communicate another of an opposite description. He said that he had served in the Irish volunteers in 1782, and that of his entire grenadier company, consisting of fifty men, there was only one now living. What a different fate overhung these two groups of persons. It is remarkable how long a certain set of men holding the same office sometimes happen to live in succession.—There can be little doubt that the steady policy of the imperial court at Vienna has been partly, at least, owing to the extraordinary length of time the modern prime ministers of Austria, including Metternich, have lived. A similar successive longevity on the part of the rulers of Prussia, has aided other circumstances in aggrandising their territories, as has been well remarked by a late writer in the *Edinburgh Review*."

Dr. Graves mentions the following as a calculation of the chances of life approaching to the truth. The chances are equal that every healthy adult will live half the difference between his own life and eighty-one. This, which is the mode of computation generally employed, is very near the truth. Thus, if a man be forty years of age, the chances are equal that he will live half the difference between it and eighty-one years, viz. twenty years and a half, and, therefore, that the duration of his whole life will be about sixty years.

Our readers are aware that the total numbers of male and female children brought into the world are very nearly equal, a small excess existing on the side of the males. In Germany and England the proportion of males to females is as twenty-one to twenty, while in Ireland it is generally as twenty-one to nineteen. But this slight excess is ultimately corrected by the greater mortality of the males before the period of puberty. After that age the excess is slightly on the female side.

Dr. Graves relates some interesting observations of M. Giron's, with regard to the relative numbers of males and females born from a given number of marriages in different ranks of life. M. Giron divides individuals into different classes; the first is composed of individuals whose employments tend to develope their bodily powers; the second, of those whose business tends to enervate; the third, of those whose employments are of a mixed description. He found that, in the first class, the number of male births exceeded the average proportion of male and female births throughout France; that, in the second class, the number of female births, exeeded the average proportion of female to male births throughout France; and that, in the third class, the proportion of male and female births was nearly the same as the average proportion throughout France. Hence he arrives at the conclusion, that the pursuits of agriculture tend to the increase of the male population, and that the habits of commerce and manufactures favour an augmentation of the female population."

The next point alluded to by Dr. Graves is the variety in the proportion of births to a marriage.

"It has been supposed," says he, "that the fecundity of marriages is in proportion to the comfort and independence of the community, and that fewer children are born from a given number of marriages in countries which are deficient in agriculture, industry, and the blessings of civil liberty. This, however, is not the fact. In England the proportion of births to marriages from 1800 to 1810, was as 4 to 1, and from 1810 to 1821, as 4·22 to 1. In In Scotland and Holland it is as 4·2 and 4·20, while in Russia and several of the Italian states it is as 5·25 and 5·45, to 1. I shall not take up your time with these statistical details any farther than to observe, that in the degree in which a nation advances in prosperity and civilization, premature and imprudent marriages will become less frequent, and the number of births be proportionally diminished. The lateness of marriages may be generally taken as a good test of an improved state of society, as exhibiting that power of moral restraint over his passions which should characterise civilised and intelligent man."

We fear the latter observation is more characterized by charity and good feeling, than by absolute truth. We greatly doubt if morality increases with civilization, or if late marriages be a proof of restraint over the passions. In marriage, woman is the passive agent, and men decide its period. Necessity, in a country like our's, prevents the early marriage of persons in the middle, and perhaps, also, in the lower class. The men will not marry and the women cannot. The latter are compelled to restrain their passions, if any such are felt, but are we so certain that the same restraint is practised by the former? Do the countless cyprians that throng our streets, and flaunt in every public spot furnish unexceptionable evidence, of the continence and moral rectitude of man? We fear that they do not.

Lives of Literary Persons.

"I had almost forgotten to mention the remarkable fact, that the cultivation of science and literature appears to be favourable to longevity, contrary to the opinion generally entertained on this point; indeed it seems that the man who is chiefly engaged in mental labour has a fairer prospect of length of years than he whose occupations consist in exclusive bodily toil. Franchini has enumerated one hundred and four Italian mathematicians of different epochs; he has ascertained the ages at which seventy of these died, and among them we find eighteen who had attained the age of eighty, and two of ninety, and this in a climate which is not generally considered to be favourable to longevity. In France, one hundred and fifty-two men of science and letters have been taken at random; half the number appears to have cultivated science, and about half to have devoted themselves to general literature; on adding together the age at which each of them had died, it was found that the averge re-

sult would be above sixty-nine years, for each individual.*

Comparative Longevity of Female Authors of the last Century—Quarterly Review, No. 99, on Madden's Infirmities of Genius.

	Age.		Age.
Lady Russel	87	Mrs. Chapone	75
Mrs. Rowe	63	Mrs. Lennox	84
Lady M.W. Montague	73	Mrs. Trimmer	69
Mrs. Centlivre	44	Mrs. Hamilton	65
Lady Hervey	70	Mrs. Radcliffe	60
Lady Suffolk	79	Mrs. Barbauld	83
Mrs. Sheridan	47	Mrs. Delany	93
Mrs. Cowley	66	Mrs. Inchbald	68
Mrs. Macaulay	53	Mrs. Piozzi	80
Mrs. Montagu	81	Mrs. H. More	89

Suicides.

Dr. Graves mentions facts connected with suicides not devoid of interest.

Suicides are not so much the privilege of John Bull, as some persons suppose. There are more in France than in England, indeed it is probable that for one in London there are five in Paris. Irritation is a frequent cause of suicide, and of this our author mentions several instances. Industrious and prudent people very seldom commit suicide. Out of 120,000, who insured their lives in the Equitable Insurance Office, the number of suicides in twenty years was only fifteen.

The Irish are the least suicidal nation in Europe. Dublin and Naples are the two cities in which the fewest suicides occur. Yet in both the poorer class are very poor indeed. Dr. Graves observes that an Irishman often murders his neighbour but never dreams of killing himself. The fact is that the prevalence of murder prevents the necessity for suicide. If both prevailed the "seven millions" would be reduced. There were forty murders in Ireland for one committed in Prussia, and in Prussia there were forty suicides for one committed in Ireland. There *were*, for the calculation was made ten years ago. Both nations have since materially changed. Fewer Prussians, in proportion, are now killed by themselves, and many more Irishmen are now killed by others.*

The Lectures of Dr. Graves, from one of which we have drawn the preceding facts, are well worthy the attention of all who take an interest in medical science.

On the Medicinal Properties of Creosote. By John Elliotson, M.D. F.R.S. &c.

As pathology discovers, or seems to discover, that some diseases are, if not incurable, very like it, so it fortunately happens that the world has generally before it some remedy, which cures or relieves what nothing would cure or relieve before it. It is true that a little time dispels the pleasing dream, and we find, after all, that our stock of specifics remain as they were.

Dr. Elliotson is, perhaps, as indefatigable an experimentalist as any physician in London. Did we "hint a fault," we should say he was too sanguine. His present researches on creosote, will, we hope, be attended with beneficial results. The paper containing them is in the last volume of the Royal Medico-Chirurgical Society's Transactions. Phthisis, epilepsy, neuralgia, Asiatic cholera, vomiting of different sorts, diabetes mellitus, ulcers of the skin, hiccup, acné indurata, chronic glanders, are the maladies in which our author has given it with more or less success in each instance. The diseases *appear* to be so opposite,

* This average duration of the lives of literary men which is given by Hawkins, is evidently greater than can be allowed, neither are Madden's tables of the mean duration of the lives of *literati* free from the same error, as is well shown in the *Quarterly*.

* If official statements are to be relied on, the increase of murders in Ireland has been progressive since the *penultimate* rebellion.

that reason would hint the inapplicability of any one remedy to all. But reason is frail, and facts are stubborn.

1. *Phthisis.* "My trials with it internally in phthisis were perfectly unsuccessful. I have since made many phthisical patients breathe for four or five minutes, four or five times a day, through a mixture of it with mucilage and water, but with no further effect, in general, than occasionally an increased facility of respiration, and a diminution of the cough and expectoration. I put one drop into rather less than a pint of cold water, and add one drop every time it is employed, in order to maintain the strength of the liquid, till this appears growing too strong; and then the patients inhale without adding any, till the liquid appears growing weak again. Some it always appears to irritate, and all in whom any degree of inflammation exists. I am satisfied that it is no remedy for tubercles. Where, however, only a single ulcer, or but a small number exist in the lungs, and there is no disposition to farther tubercular formation, it is very beneficial. One young gentleman, with a large solitary cavity in his left lung, has completely recovered, and not the slightest morbid condition is discoverable by the ear. In bronchorrhœa, or that state of the bronchial mucous membrane which consists in a profuse secretion without inflammation, I have seen its inhalation of essential service. In one instance of this affection, in which the expectoration was extremely offensive, the cure was very rapid. In asthma, also dependent upon morbid excitability of the bronchial membrane, its inhalation is often useful."

Dr. Elliotson affirms, that creosote has been useful where "only a single ulcer, or but a small number, exist in the lungs, and there is no disposition to further tubercular formation." In the first place, we should be anxious to learn how such an accurate diagnosis as the determination of a single ulcer in the lung is made. We believe we are not quite unpractised in auscultation, but to such accuracy of diagnosis we cannot pretend. In the next place, we would observe that a single ulcer, or a few, without any disposition to farther tubercular formation, is any thing but common. Such cases are not often met with. Crude tubercles are usually widely scattered, at all events over the superior lobes, prior to ulceration of the most advanced—or tubercular infiltration has made progress prior to the same sequela. Dr. Elliotson has not been experimenting long with creosote. It is probable that further experience will induce this talented observer to qualify the very favourable opinion which he now entertains of creosote.

2. *Epilepsy.* In this, creosote did such negative good, that it may be said to have done nothing.

3. *Neuralgia.* "The first case of neuralgia, or what appeared so, occurred in a girl, 12 years of age, who, after the influenza a year previously, had gradually become so costive, as to have an evacuation but once in three or four days, and then with great pain. In this condition she was suddenly seized with spasms in the abdomen, twitchings in the legs and arms, and extreme agony in the lowest part of the abdomen and pelvis. An attack of this kind frequently recurred, and at length came on every morning, about 7 or 8 o'clock, and lasted till night, when she fell into a comatose state till towards morning. The pain was such that she constantly sat moving backwards and forwards, wringing her hands, or pressing the lowest part of her abdomen; her face was expressive of intense suffering, and she was much reduced. At the time of her admission into the hospital, she had made water but once in twenty-four hours for the last three months, the abdomen was very tense, though but little swollen, and gave a hollow sound on percussion. The urine and alvine discharge were of a healthy character, and the bladder on sounding gave no indication of disease. Every known medicine likely to prove beneficial had been exhibited in the country. She was one of the most distressing objects I ever beheld, and I utterly des-

paired of any improvement. Three grains of muriate of morphia every morning perhaps alleviated her sufferings; but so little that I discontinued it. On the 22d of July, I ordered a drop of Creosote to be taken three times a day, and the dose was gradually increased to seven. She began to improve rapidly, and left the hospital perfectly well in a month from the commencement of its use; and in the mean time she had regained her flesh and every appearance of perfect health."

The next case was one of neuralgia of the posterior dental and nasal twigs of the superior maxillary nerve. The pain had existed for three months. On a former occasion, a similar attack had passed away without any medical assistance, and it is not, therefore, greatly to be wondered at that it went away this time, whilst creosote was taken. In two other cases, the remedy nearly subdued the complaint, but Dr. Elliotson adds that he has frequently known it to fail. Of this we have no doubt, nay, we venture to prophecy that the oftener it is tried, the oftener it will be found useless. Dr. Elliotson adds, that the "rare and strange forms of hysteria have yielded to creosote." We should be very loth to expect such good fortune in our own experiments. The rare and strange forms of hysteria go as they come, without our being enabled to determine how or why. He who looks to do much in such cases with physic, and particularly with empirical drugs, will find himself wofully mistaken.

4. *Vomiting.* The power of creosote in arresting vomiting, is considered by our author as perfectly established.

"When inflammation of the organ exists, the stimulant power of the medicine must do harm, and more than counterbalance its soothing properties. Where structural disease exists in the stomach, the diseased surface may not bear such a stimulant except in the minutest quantity; and a minute quantity, even should it arrest the vomiting, is very likely to aggravate pain. Although some do not dislike it, and others who dislike it at first actually find it at length rather agreeable, a few are so disgusted with the smell of tar, that they are made sick by any attempt to take Creosote: but with these exceptions, I know of no medicine at all to be compared with it in arresting vomiting. I have repeatedly seen it succeed after the failure of prussic acid, which is the most powerful remedy I previously was acquainted with in subduing this action of the stomach. Different doses and different frequency of repetition are requiste to produce this effect in different instances. The dose may easily be too large or too small. More than two drops I have sometimes seen aggravate the sickness, and sometimes I have begun with three drops every three hours, and been obliged even to give more. One or two drops may be given every hour or half hour till the vomiting ceases; and, if a dose is rejected, it should be repeated immediately. The first dose frequently succeeds. I could detail fifty cases of vomiting in the practice of myself and friends, and both in public institutions and in private practice, illustrative of its extraordinary power in this respect. In colic and enteritis it arrests the vomiting long before the bowels are opened, and purgatives are thus retained which were all rejected previously to its exhibition. Even in a case of severe vomiting, apparently from arsenic which usually excites inflammation of the stomach, I have known it succeed astonishingly, as well as in the only case of vomiting from pregnancy in which I have had an opportunity of trying it: and in sea-sickness, in which, however, my experience of its power is yet limited, though a number of my friends have promised to take it abroad with them. Of course, as it subdues vomiting, its power is equally great over nausea. When *properly* given in nausea or vomiting, without inflammation or structural disease of the stomach, I have not yet known it fail, except in one remarkable case.—A boy, fourteen years of age, had, for two years, instantly vomited whatever he took, without effort and without any diseased condition with which the occurrence could be connected. He was rather weak, thin, and pale, but otherwise in perfect health, except that he

confessed being rather giddy, and had a habit of knitting his brows,—symptoms which at length made me suspect that the cause was in his head. Creosote, as far as it was tried, failed in him, though given in doses of three drops and repeated frequently, so frequently in one day as thirty times. I proposed augmenting the dose, but he was unhappy at being from home, and left the Hospital of the University."

Dyspepsia has been treated by our author with creosote, and when it fails he unites with it prussic acid. Dyspepsia is but a name, implying disordered functions of the organs of digestion. Generally speaking, that disorder is either morbidly-excited sensibility, or a slight degree of inflammatory action of the mucous membrane. One or other of these states is the essential condition of ninety-nine cases out of every hundred of indigestion. Is a stimulating drug likely to cure that, or to increase it? This we know—that treatment precisely the opposite *in principle* is what agrees the best, and this is sufficient for us.

5. *Diabetes.* "On the 13th of August, I was requested to see a gentleman from the country, about sixty years of age, plethoric, with a full pulse: his mind was dull, and he had suffered two attacks of paralysis: his tongue was very yellow, and black at the centre towards the root. He told me his complaint was extreme thirst, so that he was drinking all day, and was enraged if drink were not taken to him the moment he called for it. He said he had been ill four or five years, was much worse always in autumn, much better in spring. He passed but four pints of urine, according to his own account, but confessed that he made water twelve times a day and three times in the night. I found it contain a large quantity of sugar. I ordered him Creosote. I saw him again on the 10th of September, when he was making water but six times in the day and once in the night. It contained scarcely any sugar; his tongue was clean, and he told me that he felt perfectly well in every respect. The qualities of the urine I could not ascertain."

In the next case, that of a young medical gentleman, the improvement was surprising. But—he was not cured, for two months ago he was seen, only no worse.

In the next case the patient went abroad, consulted many persons, neglected his medicine (a pretty good proof that it did him no good) and—died. In short, we may safely add creosote to the list of remedies that will—*not* cure diabetes.

6. *Acne indurata.* Creosote continued for six months accomplished all but a cure.

7. *Chronic Glanders.* "But I am anxious to mention its effect in two cases of chronic glanders, affecting one nostril and the frontal sinuses with pain and a copious and fetid discharge. The disease in the two persons was clearly contracted from a glandered horse, and I propose doing myself the honour of laying the facts before the Society early next session, as I never read of or met with an instance like these in the human subject; former cases having been acute glanders, or chronic farcy. The sedulous injection of a weak solution of Creosote up the nostril, removed the whole of the symptoms, after a very few weeks, and I hear the patients are still well."

Such is our able author's experience with creosote. We are not unsanguine in these matters. A reviewer sees the rise and fall of new drugs, and each has evidence at first in its favour. But the fiat of the mass of the profession seldom confirms the flattering anticipations drawn from early trials.

P. S. Dr. Roots, the talented physician of St. Thomas's Hospital, has recently given a clinical lecture at that institution, from which we make the following extract, as pertinent on the present occasion.

"I perfectly agree with Dr. Elliotson, that creosote is often of considerable value in allaying irritability of the stomach, when perfectly independent of any inflammatory action. I am disposed, on the whole, to say that creosote

is entitled to hold the same rank in the materia medica, as a remedy in irritable conditions of the stomach, free from all inflammatory action, as does the OXIDE of BISMUTH. After having used it from the first moment of its introduction in this country, I have not been able to do more with creosote, in irritation of the stomach, than I have with the oxide of bismuth."*

TUBERCULAR DEVELOPMEMTS IN THE MONKEY.

[Extract of a Letter from Mr. A. Dickson, of Rachan, in Scotland.]

I may mention here, that I had lately an opportunity of dissecting a *monkey* which died of phthisis, and which exhibited the finest specimen of tubercular disease I have ever seen. It admirably illustrated some of the general conclusions established by Louis, from his extensive researches in this department of pathology, which were ably epitomized in one of your late Numbers. The fact, that when tubercles are co-existent in the lungs and in other organs, they are invariably most developed in the former, while their development in the latter is in general equal, was most strikingly verified. The liver and spleen both contained tubercles, which shewed no signs of suppuration, while, in the lungs, suppuration had proceeded to a great extent. The pulmonary tissue, especially in the left lung, (which supports another of Louis' conclusions) was almost completely annihilated, and its place occupied by the tuberculous deposit. The left lung was so firmly attached to the walls of the thorax, in almost its whole extent, that it could not be detached by the most careful dissection, but required to be sliced away. The suppuration at one point, instead of finding its way into the bronchial tubes, had penetrated the intercostal muscles, and formed a tumour externally, the size of a pigeon's egg. The preparation is in the museum of the Royal College of Surgeons, Edinburgh.

A. D.

* Dr. Ryan's Journal, Jan. 23rd, 1836.

FLANNEL IN HOT CLIMATES.

In the United Service Journal for Aug. 1835, there is a very valuable paper by Dr. Ferguson, on the "Health of Troops," which we strongly recommend to our military medical readers—and, indeed, to all military men, whether medical or not.

We were gratified to find our own opinions, respecting the use of flannel next the skin in tropical climates, corroborated by a talented army physician. Dr. F. observes:—"I, for one, protest against it (flannel) as an enervating habit, of which the healthy, hardy soldier can never stand in need. To the feeble and valetudinary it is most useful; and, as an hospital indulgence, highly proper; but, when worn in the crowded barrack-room, with, too often, bad washing and insufficient change, it becomes a deposit of filth—even of contagion, irritating to the skin, and incompatible with health and cleanliness." Dr. F. very properly makes some exception, such as in bivouacs, and when the soldier is encamped, and in a rigorous climate. "With the above exceptions, it should never be seen either in the barracks or quarters."

TRANSCENDENTALISMS.

Our exquisite, as well as excellent contemporary—the BRITISH AND FOREIGN —has opened a splendid BAZAAR of Continental commodities, of the latest fashion, and so recherché, that all other bazaars of this kind may shut up shop at once! We are very far from casting an eye of envy or jealousy on this neighbouring REPERTORIUM:—On the contrary, we welcome the STRANGER with the most cordial greeting. Our's is a warehouse of plain goods—chiefly of British manufacture—and containing only a moderate assortment of such fo-

reign articles as we judge suitable for home consumption and ready sale. We are delighted then, that a "PUBLIC LOUNGE," in the medical market, is opened, such as we see in the Strand and Holborn, for those dandies who relish exquisite morceaus, and like not the coarse, though wholesome, provender dapted to the generality of English palates. So far from entertaining the petty feeling of mean rivalry, and cautioning our customers to avoid the "BRITISH AND FOREIGN" Bazaar, we shall always be happy to direct their attention to the shop in question, as one where they will be sure to find the most piqant specimens of transcendental medico-chirurgical spicery. Nay, we will go farther. We will purchase from our neighbour—though he disdains to purchase from us—and always keep "on sale or return" (to use a Paternoster phrase) a small (but select) assortment of transcendentals, for the benefit of trade, and the mutual advantage of both parties.

In another place, we have quoted a most remarkable "Russian puzzle," which will supply materials for conjecture to a great number of British exquisites. In this place, we shall quote a short extract or two, from some experiments by the illustrious TIEDEMANN, on "PULMONARY EXHALATION," though we candidly confess that we see little probability of their conducing much to practical utility—the real and the *avowed* object of this Journal. The following passage will damp the ardent expectations of those who expect to arrive at accurate conclusions on the subject of pulmonary exhalation.

"Having mentioned the various results of experiments by different physiologists to ascertain the quantity of water given off by the lungs in twenty-four hours, Professor Tiedemann observes, that it is nearly impossible to decide upon the actual quantity of expired vapour, on account of the rapid absorption by the lungs, not only of air containing vapour, but also of vapour which had been already disengaged. The bulk and area of the lungs also varies exceedingly. The condition of the atmospheric air, its density, temperature, and hygrometric state will doubtless have a considerable influence. The quantity of vapour thrown off by the lungs varies according to the condition of the body: in plethoric healthy individuals, a much larger quantity is formed than in those who are emaciated and weakly. Jurine, Lavoisier, and Seguin found that more water and carbonic acid were formed after meals than when the stomach was empty. Magendie observed, in a dog, after he had injected a considerable quantity of warm water into a vein, that the respiration was accelerated, and that a large quantity of water flowed from the mouth. It has also been shewn by the experiment of Prout and Fife, that much more watery vapour and carbonic acid are formed when a person is awake than when asleep: bodily exertion and mental excitement also increase it.—Nysten found that in chronic diseases without febrile excitement, and where the lungs were healthy and the respiration natural, no change was observed; but that, in acute forms, the expired air generally containad more watery vapour and carbonic acid. Jurine found, in a case of ague, that less carbonic acid was disengaged from the lungs during the cold, than during the hot and sweating stages; in a patient who had been bled to sixteen ounces, less carbonic acid was found in the expired air after the venesection than before. Nysten observed that, in all diseases attended with dyspnœa, the carbonic acid and watery vapour of the lungs were diminished."*

Whoever peruses the foregoing extract will be a sanguine physiologist indeed, if he expects that any thing determinate can be collected from experiments on this point. There can be no doubt, however, that substances taken into the stomach or rectum are soon discoverable (if they have any peculiar odour, &c.) in the expired breath. In order to ascertain what substances pass in the form of vapour from the blood in the lungs, TIEDEMANN instituted a se-

* British and Foreign, No I., p. 242

ries of experiments on dogs, several of which are detailed in the pages of our new contemporary. These we need not quote. The following passage contains the pith of the paper.

"The function of the lungs does not only consist in affecting an important and absolutely necessary exchange between the component parts of the inspired air and those of the dark red venous blood mixed with chyle and lymph, during which the oxygen of the expired air combines with the blood, and the carbonic acid is thrown off, producing the bright red arterial blood; but, besides this, the lungs appear to act as a genuine excretory organ for the venous blood. Volatile unassimilable substances, which have been conveyed into the blood from the food, which cannot serve in forming arterial blood, and are capable of evaporation, are thrown off in the cells and bronchi of the lungs, and removed with the expired air. Thus, the lungs assist in preparing the arterial blood from the alimentary matters which have been digested and carried into the circulating system, and impart to them such combinations and properties as fit them for the office of reproduction, and render the blood conveyed to every organ capable of repairing those changes in the structure and organs of the animal body which have taken place in the performance of their various functions."

PATHOLOGY OF RHEUMATISM.

There is a curious coincidence between two physicians respecting Rheumatism. Dr. Johnson's observations were published in No. 44 of this Journal, p. 460, April, 1835. M. Parise published his sentiments in July of the same year, in the Bulletin General. Both writers labor to separate acute rheumatism from chronic, considering the former as *arthritis*—the latter, as a peculiar affection, probably neuralgic, of the investing sheaths of muscular fibres —or perhaps of the nurilema of the nerves themselves. The authors do not coincide, however, on one point. M. Parise, looks upon acute rheumatism, as differing in no respect from common inflammation of a joint—say that which would arise from the kick of a horse, or a strain. Dr. Johnson, on the other hand, maintains that acute rheumatism is closely allied in its nature to *gout*, affecting usually the same parts, and very often not to be distinguished from the latter disease.

ON THE PATHOLOGY OF PHLEGMASIA DOLENS. BY PROFESSOR JENNINGS.

The following extract will shew that the pathology of the disease is by no meas settled. For our own parts, we are inclined to think that fatal cases, *resembling* the phlegmasia dolens of females, and which have been traced to phlebitis, are not the ordinary cases met with, and formerly described by so many authors of undoubted observation and discrimination. How is it that almost all the cases *proved* to be phlebitis die, while there is scarcely an instance on record, of the common phlegmasia dolens proving fatal?

"The pathology of phlegmasia dolens still remains in an unsettled state, a few observations ou this painful affection, accompanied with something additional to the common method of treatment, may be acceptable to the readers of the United States Medical and Surgical Journal.

The supposition that it is produced by a translation to the milk from the breasts of the affected limb, which was formerly entertained by many of the most distinguished French and German writers on the subject, is no longer thought to be worthy of respect.

Doctor White, of Manchester, considers the disease to be consequent on a peculiar pressure made by the child's head against the brim of the pelvis, in the time of parturition. This opinion, although far from being satisfactory, is nevertheless entitled to respect, since it was the first advance towards a theory which could merit attention.

Dr. Davis ascribed it to a remora of the blood, returning from the extremity

of the affected limb, and a consequent inflammation of one or more large veins. This opinion is in accordance with the theory of Velpau, &c. But

Dr. Dewees has made it sufficiently evident that the disease is not phlebitis.

Drs. Trye, Ferriar, and Hull, with much unanimity considered the disease to be seated in the 'lymphatic gland.' It is probable they were looking towards the extreme capillary structure of the lymphatic system. They do not appear to have varied materially from the opinions of Drs. Denman and Latham.

Drs. Dewees, Houston and Eberle, seem to be very nearly in consent with the last-named authors. They believe 'the whole system of lymphatic vessels of the afflicted limb, is engorged and distended with lymph, at the same time that some effusion may occur in the subcutaneous and intermuscular texture.'

Dr. Houston says, 'it may occur primarily in one or more glands, or it may have its origin in a principal lymphatic trunk, and thence extend to the glands.' That a gland or lymphatic trunk may be bruised by the child's head in its passage through the pelvis, so as to set up this peculiar kind of inflammation;—That exposure to cold, or damp air, or putting on damp clothing, may produce a similar effect;—Also, that the absorption or transmission of some acrimonious matter, may serve to induce the disease;—That in every instance it is preceded by one or other of the foregoing incidents, as its exciting cause. That the disease exists primarily in the glands and their communicating trunks, he thinks is made certain by 'the uniform occurrence of pain and uneasiness about the passage of the round ligament in the groin, and down the inside of the thigh,' antecedent to the swelling or other affection of the limb. That the color of the affected limb, proves an engorgement of the lymphatics; whereas, a congestion of the blood-vessels, as in ordinary inflammation, would assume a red and not a white color.

And that the state of the pulse and tongue,—the character of the fever, &c. proves the existence of an irritation, such as ought to be looked for, when there is great distention of the lymphatics throughout their utmost ramifications, making pressure upon the immensity of the nervous fibrils by which they are surrounded.

The manner of its termination is considered to favor this conclusion, since it is more uniform and less fatal than an equal extent of inflammation consequent upon a congestion of the bloodvessels; and it commences with diminution of pain in the iliac and inguinal regions, showing the seat of the disease to be in the lymphatic system, and especially in the conglobate glands."*

The remedy which Professor Jennings recommends, from, experience, is strips of adhesive plaster, spread with mercurial ointment, over whole of the limb affected. The success exceeded our author's most sanguinary expectations, and he now employs it in every case that comes under his care. He covers the limb thus treated with neatly fitted pieces of oil-silk, and a bandage over all, to fit the dressings closely to the whole surface of the limb—but not so tight as to produce pain. He gives a daily aperient of calomel and ipecacuan. As soon as the mouth begins to shew the effects of mercury the symptoms abate.

SINGULAR CASE OF STERCORACEOUS VOMITING DURING A PERIOD OF EIGHTEEN MONTHS, CAUSED BY ADHESION OF THE SIGMOID FLEXURE TO THE TRANSVERSE ARCH OF THE COLON, AND THIS AGAIN TO THE GREAT CURVATURE OF THE STOMACH, WITH ULCERATED COMMUNICATION THROUGH ALL THESE PARTS. By ADAM DICKSON, Esq. Surgeon, Rachan Mill, N. B.

Mrs. F. ætat. 38, ever since the birth of a child, about 18 years ago, had been in very delicate health, and subject to occasional cough and expectoration, after exposure to cold, with constant dysp-

* United States Medical and Surgical Journal, Oct. 1835.

nœa periodically exasperated. About six months before she came under Mr. Dickson's notice, she had had an attack of abdominal inflammation. The treatment was so far successful, that she had been restored to nearly her former state of delicate health, except that slight general tenderness of the abdomen still remained, with a constant, acute, and lancinating pain in the left iliac region. When first seen, it was on account of a recurrence of the symptoms of a general peritonitis, with severe aggravation of the local complaint. As the patient was feeble, and considerably emaciated, recourse to general blood-letting did not seem warranted, and Mr. D. trusted to leeching, blistering, fomentations, calomel and opium, and mild purgatives, which had the effect of speedily relieving the constitutional symptoms, and removing the tenderness of abdomen, but did not produce any marked effect on the pain, which had remained ever since the former attack. It was most acute in the left iliac fossa, and extended upwards, in the direction of the descending colon, into the left hypochondrium. There was no external swelling or fullness; but, upon careful manipulation, a small hard tumour could be felt in the situation of the sigmoid flexure, which was most acutely tender when pressed upon, and was the point from which she described the lancinating pains as proceeding. The bowels were at all times costive, and she required the constant use of pills to regulate them, as she uniformly experienced an aggravation of the pain when they were neglected. About three months after having first seen her, and after having, in the mean time, used leechings, blisters, ointment of tartrate of antimony, mercurial and iodic frictions, narcotics, &c. without making any impression on the disease, she had an attack of decidedly stercoraceous vomiting, by which she evacuated about three pints of a thickish fluid in the course of the day. The vomiting returned a week after, in nearly the same quantity, but more markedly stercoraceous. The evacuations *per anum*, had, notwithstanding the exhibition of laxatives and enemata, been very scanty during the time which intervened between the attacks of vomiting, as well as habitually before the first. When the fæces were evacuated without assistance of laxatives or lavements, their diameter was small, affording a presumption that organic contraction of the gut existed, in the locality indicated in the lancinating pain. After this period, the vomiting, in spite of every remedy that could be tried, continued to recur more frequently and the natural evacuations downwards to become more scanty, until about four months before death it occurred every day with great regularity; or, if it missed one day, a larger quantity was brought up next day. The peristaltic motion of the bowels, except of a small portion at the lower end, seemed to be completely inverted; for, when a purgative was exhibited, it never failed to act as a purgative, in the inverse direction, and always brought away, by the mouth, a larger quantity of liquid fæces than was vomited on ordinary occasions; while clysters produced very little, and often no effect at all. These vomitings were extremely painful, being always preceded by three or four hours of very severe sickness and violent headache—the disgusting fæcal taste was never absent from the mouth, and the tongue was constantly covered by a thick yellow fur. The pain continued to become worse—the patient got no sleep, and could take no nourishment—emaciation became extreme—at length the hands and feet swelled—diarrhœa took place, and she died in a week from its commencement, and eighteen months from the origin of the complaint. The vomiting continued to the last.

Inspection. On opening the abdomen, the products of inflammation were sufficiently obvious, in numerous adhesions, which were apparent at first sight; but the most remarkable feature was, the almost complete concealment of the small intestines, by the displacement of the stomach and transverse arch of the colon, which, intimately and inseparably connected with each other, were both drawn out of their natural situation, and firmly adherent to the sigmoid flexure. Upon making a careful and minute dissection of these parts, it was

found that their connexions and modes of communication by morbid openings were highly curious, and perhaps unprecedented. There was first, a large ulceratedopening, with foul and ragged edges, in the great curvature of the stomach, communicating with the transverse colon, which was inseparably attached to it. A similar ulcerated opening, through the opposite wall of the colon, led directly into the commencement of the sigmoid flexure, which firmly adhered to the transverse arch, in the same manner as the arch adhered to the stomach—the whole three, stomach, arch, and sigmoid flexure, being closely matted together in one point, and forming a firm, hard mass, which had been the tumour felt during life in that situation. The scirrhous ulceration had thus destroyed four folds of intestine—the coats of the stomach—both walls of the arch, and one fold of the sigmoid flexture of the colon, and formed in this manner a patent communication, of not more than two inches in length, between the stomach and the lower part of the large intestines, and in consequence cut off and obstructed the whole tract of the alimentary canal above the arch of the colon.

The opening leading from the great curvature of the stomach into the transverse part of the colon, and from that into the sigmoid flexure, was wide, and admitted two fingers with ease; while the continuation of the colon, on either side of these adventitious openings, was contracted by bands of cartilaginous firmness, so as to admit only the point of the little finger. The small intestines, and the colon above the diseased point, contained a very considerable quantity of consistent, but not hardened fæces, which proved that the colon, though its tract was still open to the extent already mentioned, had not admitted the passage downwards, of any of the contained matters; and that the diarrhœa, which had existed before death, had taken place entirely from the inferior portion of the great gut. The pancreas was of very unusual size, but its structure was perfectly normal. The lungs presented fine specimens of vesicular emphysema, but there were no traces of diseases in any other organs of the abdomen or chest.

This case is curious, both for the complication of the organic lesions which it displays, and for the great length of time during which the inverted action of so large a portion of the intestinal canal existed. It is perhaps unprecedented, that the mouth should, for such a long period, be the emunctory of the whole tract of the intestines, except the small part below the sigmoid flexure.

The scirrhous ulceration had, Mr. D. imagines, commenced in the sigmoid flexure—the situation in which pain was first felt: this, when its coats were nearly penetrated, had become attached to the arch of the colon by adhesive inflammation, a protective process which we find so often taking place to prevent effusion into the cavity of the peritoneum. During all this time there was no vomiting; but as the diameter of the colon became contracted, and the coats of the stomach involved, vomiting took place at intervals, to relieve the upper part of the intestinal tube of the contained matters, which could not find a ready exit downwards. As the contraction of the colon proceeded, and the coats of the stomach became perforated, the irritability of the ulcerated surface, would combine with the diminished diameter of the bowel, to prevent the passage of the fæcal matter along its tract, when the inverted action became fully established as it was for the long period mentioned. This mode of progression, and this order of the involvement of parts, is the most probable, and that which agrees with and best explains the symptoms observed. The principal subject of curiosity is, the endurance of life under such extraordinary circumstances.

DR. BOSTOCK ON THE CHEMICAL COMPOSITION OF CALCAREOUS TUMOURS.

DR. BOSTWICK has lately been at the pains of analysing several calcareous tumours of the uterus, as well as calcareous depositions in other organs and

parts of the body. The analysis of salivary and other calcareous concretions had previously informed us that they were usually composed of phosphate of lime, a small proportion of the carbonate, and a certain quantity of animal matter. We say usually, for M. Lassaigne, in an examination of a salivary calculus, found this order of composition reversed;—86 per cent. being carbonate of lime, and only 3 per cent. the phosphate.

Dr. Bostock has, through that indefatigable and excellent physician, Dr. Robert Lee, had recently an opportunity of investigating the chemical composition of nine different calcareous growths, in addition to one obtained from Mr. Howship. We will specify the results of his investigations in each instance.

1. The first specimen consisted of calculi discharged from the uterus during life. They were made up of a number of small bodies, from the bulk of a pin's head to about three times that size; their form was completely irregular, and in some parts they appeared as if they had been corroded, resembling a decayed tooth. They were of a yellowish white colour, like bone or ivory, and were so hard as not to be cut with a knife. Some of them were single, while others were connected by a membranous substance: the membranous substance had a few dark brown bodies, of the size of a mustard seed, attached to it. The whole, when dried at the temperature of 200°, weighed 6·2 grs.

A portion of the substance was subjected to a red heat; it burned slowly, with a dull flame, and lost about one-fourth of its weight. The residue was treated with dilute muriatic acid, and, with the exception of a few black particles, was quickly dissolved. Another portion being digested in boiling water, lost neither weight nor form, and the fluid contained no appreciable quantity of albumen or of gelatine; but there was a minute portion of the animal matter which exists in the serosity of the blood, and a trace of common salt.

The substance being again dried, was digested in dilute muriatic acid. The solution was found to contain a considerable quantity of phosphate of lime, with a small quantity of the carbonate. The dark brown particles formerly mentioned are supposed by Dr. Bostock to have been clots of blood. On being treated with caustic potass, a membranous film remained, which assumed the appearance of a small bladder cyst, or with a rounded aperture at one of its extremities.

2. This was a piece of a calcareous tumor removed from the body of a female, who had passed portions of the calculi from the uterus during life. It appeared to consist of a number of irregularly formed masses, of a white and somewhat chalky-looking substance, connected together by an animal matter, of a brown colour, and solid consistence, which had the appearance of inspissated mucus. Passing over the chemical processes resorted to, which indeed were similar to those employed in the preceding instance, we may state the muriatic solution was found to contain a large quantity of carbonate of lime, with a small quantity only of the phosphate, the proportion being nearly as ten to one; it also contained the sulphate of lime, in about the same proportion with the phosphate. The animal matter appered to be identical with what Dr. Bostock formerly described under the title of albuminocerous matter. Altogether Dr. B. sums up:—"From the above experiments we may conclude, that the substance in question consisted of an earthy compound, composed principally of carbonate of lime, united to a small quantity of the phosphate and the sulphate of lime; it was imbedded in or connected with an animal matter which appeared to be, for the most part, coagulated albumen, with minute quantities of the peculiar substance found in the serosity of the blood, and of what I have termed albumino-serous matter. From the aspect and general character of the body in question, I should conceive that there is no organic connexion between the earthy and the animal matter of which it consists.

3. This was from the uterus. It was an irregular mass, somewhat resembling

No. 1, but with less distinct concretions, the earthy and the animal matter being more intimately mixed together. Subjected to the same processes it was found to contain a considerable quantity of the phosphate of lime with small quantities of the carbonate and the sulphate. It appeared therefore that the earthy matter of this substance was nearly similar to that of No. 1, and that it was, in like manner, attached to a portion of an animal matter, which resembled coagulated albumen.

4. From the arch of the aorta. It consisted of a white matter, imbedded in a hard, semi-transparent substance; when torn or divided, the white matter exhibited somewhat of a fibrous texture. It contained a minute qnantity of albumen, a trace of gelatine, and other matters—a considerable quantity of phosphate of lime, a little of the carbonate, and a trace of the sulphate. "It may be considered as consisting essentially of the earth of bone imbedded in a membranous body; the earthy matter being in the form of filaments or thin plates, interspersed through the substance of the animal matter."

5. Calculi from the lungs. The specimen consisted of three small bodies, of which the largest weighed rather more than four grains, and the two smaller about half a grain each. They had all the same appearance, that of a white granular mass, of an irregular form of considerable hardness, and an earthy fracture. They were made up of a large quantity of the phosphate of lime, a small quantity of the carbonate, and a trace of the sulphate.

6 and 7, were also from the lungs. Their composition was so similar to that of No. 5, as not to require special notice.

"The results," adds Dr. Bostock, "of the above analyses confirm the opinion that had been previously entertained respecting the chemical composition of these bodies; that they are, for the most part, composed of the phosphate of lime and animal matter, generally united to a small quantity of carbonate. Out of the eleven concretions which I have examined, the only exception is that which was taken from the uterus. This, both in its physical and chemical characters, differed very materially from the others, while it more nearly resembled the salivary concretion that was analyzed by M. Lassaigne."

8. This was a large pendulous bony tumor, connected by a short strong peduncle to the back part of the fundus uteri. It was obviously compounded of two substances; a dense and hard body, intermixed with layers, or deposited in the cells of a membranous substance. The exterior surface was irregularly tuberculated, while the interior exhibited a number of cavities of various forms and sizes. The earthy and the animal matter appeared to exist in very different proportions, in different parts of the calculus; Dr. Bostock took ten grains of what appeared to consist of an average proportion of the two, and subjected them to the same mode of analysis, as was employed in the former experiments. The result was, that the ten grains were composed of—

Animal matter	3·2 grains.
Phosphate of lime . .	6·45
Carbonate of do . . .	·35
	10·00

9. This was from a case of Dr. Chownes, related by Dr. Lee in the Society's Transactions. Five grains were examined, and their composition, setting aside the details of the processes employed, may be set down thus:—

Jelly, mucus, &c.	2·1
Membrane, &c.	1·1
Phosphate of lime	1·5
Carbonate of do.	0·2
Sulphate of do.	0·1
	5·0

10. A portion of the calcareous tumor of the uterus. It consisted of a number of tubercular or vermicular bodies, forming an irregular concretion, and having in the interior cavities of various forms and sizes. The proportion of the calcareous salts was as follows:—

Phosphate of lime	8·5
Carbonate of do.	1·45
Sulphate of do.	0·05
	10·00

Dr. Bostock concludes:—

"From these three analyses, taken in connection with those in the body of the paper, we may conclude, that these earthy concretions, in whatever part of the body they may be deposited, are nearly similar in the nature of their constituents, although with some variation in the proportions; that in almost all instances the phosphate of lime is the predominating substance, while, in certain cases, the carbonate would appear to be the principal ingredient."

This is a valuable chemical addition to the stock of pathological facts. We trust that chemistry will be more and more applied to the investigation of the nature of morbid structure.

Suppression of the Urinary and Alvine Secretions for several Years.

Dr. Montesanto has related this almost incredible case in an Italian journal. The individual (Dom. Valetto) had sustained an injury on the loins nearly 18 years ago, followed by weakness of the lower extremities, and difficulty of discharging urine and fæces. He was committed to prison in Padua, for some crime, and was there seized with inflammation of the medulla spinalis, succeeded by paralysis of the lower limbs. The patient vomited daily the ingesta which he had taken—and complete suppression of the renal and intestinal evacuation now took place.—After some time stercoraceous matters were vomited up, as well as partially digested substances. In this wretched state he continued eight years, viz, till 1828, when M. Montesanto took him in charge. The stercoraceous vomiting now became less frequent, and was sometimes absent for a considerable period of time. Inflammatory and congestive symptoms rendered bleeding very often necessary. The inexorable tribunal of justice, devoid of humanity, refused all application to have this victim transferred from a loathsome cell to the wards of an hospital! He lingered out a miserable existence of 17 years, and expired in February, 1835.

Dissection. Nothing particular in the brain. Vertebral canal normal. In the canal itself was found much sero-sanguinolent fluid. The medulla spinalis was apparently free from disease. The stomach was preternaturally large, and contained some yellow and fæcal matters; but its coats were unaffected. The gall-bladder was void of bile, but contained a number of biliary calculi. The small intestines presented several contractions, particularly in the vicinity of the cæcum. They contained the same kind of matters as the stomach. There was nothing remarkable in the colon above the sigmoid flexure. There the parieties became thickened and contracted, and the mucous membrane presented several ulcerations. There was fæcal matter throughout the whole of the alimentary canal—very fluid in the small, but dry in the large guts. The liver was normal. The bladder was contracted, and its coats thickened. It contained a few drops of thick urine. The kindneys were healthy—ureters flaccid.

The appearances on dissection are very far from accounting for the strange phenomena during life. We are not without suspicion that some deception was practised on our Italian friends. The darkness of a dungeon, and the hopes of mitigation of sentence, were circumstances favorable to such attempts. The discipline could not have been very rigorous, for we are told that he often indulged in large potations of brandy! But the statements respecting the *suppression* of urinary secretion, for so many years, contrary to the acknowledged condition of the urinary apparatus, as proved by dissection, and contrary to all experience, pathological and clinical, stamps the whole case as calculated to make the ignorant stare, and the credulous to wonder. We have

just as much credence in this case, as we have in the spontaneous liquefaction of the blood of St. Januarius! Some of our contemporaries have been finely hoaxed by Dr. Montesanto!

INTENSE HEADACHE (IN PAROXYSMS) REMOVED BY TONICS AND LOCAL BLEEDING—(DR. BRIGHT).

This case is related in the first No. of Guy's Hospital Reports. The patient was J. King, aged 50, who was admitted in February, 1835, labouring under intense headache, somewhat periodical, of ten months' duration. The pain arose from the nape of the neck, extending to the front of the head, coming on in paroxysms, and attended by giddiness, and sometimes loss of consciousness. No external tenderness—no paralysis—pulse 84. The nitrate of silver was applied to the shaven scalp, and aperients were ordered. Five days afterwards he was not relieved, and, in the paroxysms, the pulse fell to 52, rising as the pain abated, to 64. Senna was given, and cupping-glasses applied to the nape of the neck. The ferri subcarbonas was also prescribed in 40 grain doses, every four hours. In four days more, the paroxysms were found to be more frequent than before. The dose of the carbonate was doubled. Senna draughts, with colchicum, were exhibited. In two or three days more, the cupping was repeated, and the arsenical solution was prescribed, with cascarilla. Afterwards the quinine was ordered and taken for a fortnight, with a couple of weeks' freedom from pain. In this state, the patient was discharged; but whether or not he was permanently cured, the deponent saith not.

EXTIRPATION OF THE GREATEST PORTION OF THE RIGHT SUPERIOR MAXILLARY, AND THE ANTERIOR PART OF THE MALAR BONE, WITH A FIBRO-CARTILAGINOUS-LIKE TUMOR, WEIGHING TWENTY-ONE OZS. By RICHARD TUTHILL, M. D. Surg.

[Received through the Army Medical Board.]

James Samuels, aged 25, a black, in the parish of Irelanny, Jamaica, healthy looking, with the exception of a large morbid growth, occupying the right side of the face.

Reports that, when a lad, he received a kick from a horse in the right cheek. When grown up, he for the first time felt a small lump, like a kernel in the same spot. This lump was situated external to the centre of the antrum, and has gradually increased, from the centre to the circumference, to a most enormous size, rendering the man a most frightful and disgusting spectacle, and his existence an annoyance and burden to himself. He experiences an unceasing pain, shooting through the orbit, sometimes, through the whole head and face, with a fetid discharge, and occasional hemorrhage to a great extent.

The surface of the tumor is smooth; the integument thin, and apparently much stretched. Numerous small veins run from within outwards, and from above downwards. The tumor is perfectly firm and unyielding. Its measurement, previously to being extirpated, was as follows—eight inches and a half, in an oblique manner, from the inner canthus of the eye, towards the external angle of the lower jaw; seven and a half inches from the septum narium towards the ear; and five and a half inches in a perpendicular direction, from the inferior lid to about the centre of the lower jaw. It preserves a well-defined edge, of tolerable thickness, occupying the anterior third of the malar bone, the superior maxillary and right nasal bones externally. The palate-bones are engaged in the disease. The alveolar process is turned upwards and outwards, and very much increased in thickness. The two incisors of the right upper jaw and the bicuspid are wanting, whereas all the teeth are complete in the opposite jaw. A large aperture,

of long standing, is observed leading from the mouth into the antrum, through which he has been accustomed to keep a piece of linen plugged, to prevent the constant discharge of very offensive matter from the cavity which is large enough to admit the middle finger to pass into it. Speech and deglutition are much interfered with. The tumor projects about four inches, in the centre, from the ordinary surface of the face.

January, 1830. Dr. Tisdale extracted the first molar tooth, which afforded an immediate vent to some very offensive matter.

Operation, 22*d March*—in presence of Messrs. Parkins, Dalrymple, and others. The common carotid was first encompassed by a ligature of reserve. An incision, five inches long, was then made, from near the inner canthus of the eye to near the commissure of the mouth. Another was made from the ramus of the jaw, parallel to the teeth, below the parotid duct, to join the former incision. The triangular flap was dissected backwards, and then the remaining integument and muscles were dissected towards the left face, as far as the septum narium. The superior maxillary and the anterior part of the malar bones presented an appearance resembling the shell of a crab, expanded over the anterior surface of tumor. Hey's saw readily penetrated the shell, and the removal of the tumor appears to have been boldly and dexterously performed. The description of the different steps, it would be totally useless to describe, as it would be quite impossible to comprehend it. In this respect, our operator falls into the error of most other vivisectors. Suffice it to say, that the anterior third of the malar bone, exclusive of the orbital plate—the superior maxillary bone, excepting its orbital portion—the right nasal—the right palate—and a small portion of the left—a piece of the *left* superior maxillary, were removed, principally by the knife. It was then astonishing to contemplate the great structural alteration in the palate, nasal, and maxillary bones. They were softer thancartilage. The labial and orbital arteries were tied, and the facial vein. The ligature of reserve was removed from the carotid, and the edges of the wound were brought together by suture aud adhesion.

The tumor was the size of a child's head of six or seven months' old, and was of a cartilaginous consistence, without any vestige of a cyst. There was a thimble-like cavity in the situation of the antrum of Highmore, lined by a smooth membrane. The after-treatment was judicious and successful. This formidable operation does great credit to Dr. Tuthill.

The Nakra, a peculiar Indian Disorder.

Mr. Twining, in his recent work on the diseases of Bengal, has given the description of a singular affection, confined to the natives of India, and denominated Nakra. It is a febrile disorder, which, though transient, and seldom fatal, is very severe and distressing. It seems to consist of a sudden and violent congestion of blood in the Schneiderian membrane, which extends to the mucous membrane lining the sinuses of the frontal, malar, maxillary, and æthmoid bones, with pirexia, remarkable rather for the rapidity of the circulation than for augmented force of the heart and arteries. The invasion is sudden, and the sufferings of the patient great, from pain in the sinuses. Nakra means the nose-disease. The sensation of pain and distention within the nose is attended by extreme pain in the back of the neck—heat of the forehead—great weariness, and pain in the loins and joints. In a few hours, the pains are much augmented in the frontal and other sinuses, and in the nose; but without relief of the headache and pains in the loins. The eyes soon become red, with intolerance of light and prostration of strength. Thirst is distressing, and the patient takes to his bed. The pulse is rapid, but seldom full or hard. Mr. T. has known it rise, in a few hours, to 128, in an elderly Hindoo. The respiration is hurried, but not laborious; and much anxiety is

expressed, especially in the standing posture. On examination, the Schneiderian membrane is found red and swollen. A burning heat comes over the whole body, which continues some days. The ordinary duration of the complaint is from three to five days. It attacks both Hindoos and Mahomedans, of all constitutions and temperaments. Women suffer more rarely than men, and children under ten years not at all. Some people escape it entirely, and others have it once a fortnigt for three or four months. Generally speaking, those who have had the nakra twice, are subject to annual attacks for many years afterwards. It does not recur at any particular period. Irregularities in living, and unnecessary exposure to the sun, are supposed to be the causes. They employ very little medicine for the complaint, and usually wait with patience till it is over. The natives of Bengal, however, are accustomed to draw blood from the nose, by means of sharp grass thrust up the nostrils, or by puncturing the Schneiderian membrane with an awl. This affords remarkable relief.

The nakra appears to us to bear more resemblance to the HAY-FEVER, than to any other complaint wfth which we are acquainted. Dr. B. Rush however, mentions a curious complaint, known in some parts of America by the name of *pleurisy in the head*. This is probably analogous to the nakra.

COMPARATIVE PATHOLOGY.

PALSY IN THE HORSE.

The progress of medical education has received an immense impulse within these last few years. It has increased, is increasing, and must continue to increase, in an accelerated ratio. We are not of the alarmist school. We do not look with horror or with dread at this. It is a part of the great mouvement of society, and, whatever may be thought or said by individuals, it *must* go on. It is in vain for particular feelings or interests to struggle against such a tide as this.

The alterations in the quantum of what is taught to medical students, are equalled by the alterations which have been effected in its nature. Regard anatomy. How different is the mode of teaching it now, from what it was a few years ago. Yet still comparative anatomy is neglected, and does not form a necessary component part of the studies of the surgeon or physician. That it must do so ere long is obvious. Attendance on lectures on comparative anatomy must form a part of the system of education insisted on by the new university. It would be monstrous not to include it.

Mr. Youatt, in some letters published in a monthly journal, the "Veterinarian," has made some very pertinent remarks on the value of comparative morbid anatomy. This is a subject which has hardly yet been broached; yet it is obviously one of high interest, if not of actual importance.

Mr. Youatt, from his situation as veterinary surgeon to the Zoological Society of London, must of course enjoy such opportunities of cultivating comparative pathology, as have fallen to the lot of none before him in this country. Those opportunities will not be neglected, nor could a fitter man be easily found, for what we must deem the responsible office that he fills. We say responsible, because Mr. Youatt probably has it in his power, by a careful and exact observation of the facts that daily present themselves to him, not only greatly to advance his own department of medicine, but human pathology too. We would, therefore warmly urge him to communicate, from time to time, to the profession the results of his researches, and we will take care to extend the knowledge of comparative pathology, as we endeavour to promote the acquaintance with the human, to the utmost of our power. At present we have only time to notice a few facts connected with palsy in the horse. In our next, we will endeavour to introduce a more extended series of facts, which may appear to be instructive or curious.

Mr. Youatt remarks that general palsey is rare in the horse, while partial

paralysis is not only frequent, but sometimes fatal. The following case of paralysis, depending on inflammation of the membranes and substance of the spinal cord, is interesting.

Case. "An old pupil and valued friend of mine, Mr. Chapman, who kindly conducted my business for me when I was ill, was sent for, in order to examine a horse. The symptoms were, heat of mouth, heaving at the flanks, a hard and quick pulse, and the exhibition of great pain. As he stood by his side and looked at him, he observed some slight spasms of the right shoulder, and extending along the side. He naturally concluded that it was a case of pleurisy, and he bled the animal and gave fever medicine.

On calling a few hours afterwards, he found the horse in still greater pain, and his left leg was becoming powerless. The horse could not bear upon it, and he shrunk at the slightest touch."

"He soon after this fell, and beat himself dreadfully about. My young friend began to understand the case: he ordered the limb to be frequently fomented, he rubbed in a stimulating liniment all over it, and he gave a strong dose of physic. On the following day, he began to give opium and spirit of nitrous ether.

The horse had then been set on his legs with a great deal of difficulty; he stood continually shifting his position, so far as he could do it with his hind feet, and trying in vain to rest a little of his weight on the affected limb. At length the power of the other leg began to fail, and he again fell down, and, unless forcibly held down, beat his head about, and fought and scrambled with his hind feet. He survived until the fifth day after the attack.

On examining him after death, there was scarcely any thoracic or abdominal lesion, but there was spinal disease from the fifth to the seventh dorsal vertebra. The membranes of the chord were inflamed, the ligamentum denticulatum very much so; the inferior columns were pulpy, and the fluid in the central canal was black. The superior and lateral columns presented no lesion."

The same symptoms were exhibited by the horse, as are sometimes seen after injuries of the spine in man. When the cord and its membranes become much inflamed, the paralysis which previously existed sometimes seems to pass away, and horrible pains are felt in the affected limbs. The paralysis returns, and the patient sinks. This case has been well pointed out by Sir Charles Bell.

It is odd that hemiplegia, the most common form of palsy in men, is exceedingly uncommon in the horse. In other words, apoplectic effusions on the brain are rare in that animal. Mr. Youatt appears to attribute the circumstance to two causes—the absence of mental excitement, and the regulated diet of the equine patient. There are cases related of two stallions, who became paralytic after covering too many mares.

"Palsy in the horse proceeds from injury of the spinal chord, and that chord is more developed than in the human being. In man, the brain may perhaps be averaged at one thirty-fifth part of the weight of his body. In the intellectual dog, it can be rated at little more than the one hundred and sixtieth part. In the horse, it is one four-hundredth part only; and in the ox one eight hundred and sixtieth. Not only is the bulk of the brain smaller in the quadruped than in the human being, and therefore less likely to exercise so paramount an influence over the chord, but the spinal chord, and especially the inferior or motor service of it, is, *compared with the bulk of the animal*, very much more developed in the quadruped than in the biped. The brain of the horse is smaller than that of man; the spinal chord is considerably larger. Compare the relative bulk of the brain and that of the chord in man and the horse: compare, also, the full rounded developement of the motor columns on the inferior superfices of the horse with that of the same columns on the anterior face of the spinal marrow of the human being. The principle of intellect is developed in the one; the other is chiefly formed with reference to muscular strength and endurance.

The spinal chord is more exposed to injury, and injury which will effect not one side only, but the whole of the chord at that part. It is also an anatomical fact, that the decussating fibriculi which extend from one motor column to the other, and connect the two together in consentaneous action in the animal whom we often tax so severely, and whose utility to us consists principally in his muscular strength, are far larger in the horse than in man; and, by means of these connecting fibres, disease also is more likely to spread from side to side. It is on these accounts that while hemiplegia is the form which palsy oftenest assumes in the human being, paraplegia,or palsy equally affecting both sides, in the most frequent malady of the quadruped."

Palsy usually effects the hinder extremities, because, in consequence of their articulation to the pelvis, the strength of their muscles, and the exertions they are called on to perform, injury to the corresponding portion of the spine is most frequent.

Mr. Youatt informs us that in palsy dependent on lesion of the spine, the case is almost always inflammatory and requires active antiphlogistic treatment. Here is a sketch of palsy of this description.

"If you inquire into the history of the cases that come before you, you find that the horse had fallen, and had suddenly became paralytic—or palsy had supervened a few days after the accident—or he was seized in the midst of his work and when his energies were too cruelly taxed—or he had been worked exceedingly hard a few days before, and there had been a heavy load—or the pace had been greater than usual—or, covered with perspiration, the horse had been left exposed to the cold and wet."

"Generally speaking, there are few precursory symptoms. On the previous day, the horse is apparently well; he is found on the following morning, or soon after some severe accident, dreadfully lame; in great pain; and shifting his weight from one limb to another. In some cases there may be previous fever, heaving, illness which can scarcely be referred to any particular part, or derived from any particular cause. Very shortly, however, the mischief can be traced to one leg; perhaps both are equally affected: the animal can scarcely walk; he walks on his fetlocks instead of his soles; he staggers at every motion; he hurries along to prevent himself from falling; at length he falls; he is raised with difficulty, or he never rises again.

The sensibility seems for a while to be very much increased, but the feeling of the part, and the sensibility generally, gradually subside—they get below the usual standard—they cease altogether. There are none of those sudden suspensions of feeling and voluntary motion which are recorded of the human patient, because it is not so often an affair of the head. It is the result of spinal disease or injury—it originates in inflammation of the spine or its membranes, whatever be the cause of that inflammation; and it is ushered in by fever and excruciating pain. When the pain which accompanies the first attack has passed over, the animal, with the exception of his powerless limbs, appears for a while—a time of very uncertain duration—in the full possession of all his senses, and eats and drinks as usual."

On dissection of such cases, there is almost always inflammation of the cord or its membranes about the lumbar region.

Palsy in the ox and cow is not unfrequent after exposure to damp and cold. The cow is particularly exposed to palsy at the period of calving, or shortly afterwards.

Calves, if turned out too soon after weaning, are very subject to palsy.

In all these cases, we are told that there is usually inflammation of the spinal cord or its membranes. The great art in the treatment seems to be to get the beast into such a state that the butcher may make the most of him.

NEW REMEDY IN EPILEPSY.

We shall quote some extracts from a

paper which we have met with in a recent American Journal,* relative to a remedy little, if at all known, in this country : viz.

"*On the Crusta Genu Equini* (*Sweat or Knee Scab, Mock or encircled Hoof Knees, Hangers, Dew Claws, Night Eyes. or Horse Crust,*) *in Epilepsy.* By JOHN P. METTTAUER, M. D.

"The substance designated by the several appellations at the head of this article is furnished by the horse ; four oval secreting surfaces, situated on the inner aspects of the extremities, near the knees, are the parts of the animal from which it is obtained. The secretion is poured out so gradually, and in such small quantities at a time, as not to be observed in its fluid, or even semi-fluid states. The crust is of variable color, as well as density ; its exterior is always of a lighter appearance, and harder than the interior, which is dark and soft ; it is of a lamellated and fibrous texture, and when broken, resembles dark, soft horn ; its odor is very penetrating, diffusable, and peculiar ; it is deciduous, and separates gradually two or three times during the year ; when prematurely or forcibly removed, the surface from which it is taken sometimes bleeds a little, inflames and becomes tender and sore."

"As a *medicinal agent*, the crust has been long known in this part of the country. How it found its way into use as a remedy, is not certainly ascertained. It is conjectured that the coincidence of the horse being observed to bite the crust, and to pass worms from the bowels soon after, suggested it as such, and the conjecture is by no means improbable, when it is remembered that this article was first employed as a vermifuge with that animal. The fætid odor of the crust, it would seem might naturally have suggested the idea of its possessing remediate powers, and doubtless did indicate it as a nervine and anti-spasmodic, after it was supposed to possess vermifuge properties.

We have long known and employed this substance as an anti-spasmodic ; but the merit of introducing it into regular practice, is due to Dr. Joseph Mettauer (the writer's father), who employed it in epilepsy so early as 1782 or 1783. During the last twenty-five years we have enjoyed many and satisfactory opportunities of using the crust as a remedy in epileptic convulsions.

In collecting the crust for medical purposes, it is necessary to attend carefully to its loosening tendency from time to time, or it may fall off and be lost. It may be made to separate a little sooner by gently soliciting, and occasionally by firm compression with a bandage. This should be suffered to remain on after the period of desquamation is near at hand, to prevent the accidental loss of the crust. After it is obtained, it should always be dried a short time in the shade, and then it may be kept for use in a close jar, to prevent, as far as possible, the escape of its volatile properties."

"Two forms for administration are used—the powder and tincture. When the powder is to be used, it should always be freshly prepared, either by pounding and rubbing the dry crust in a mortar, or by grating it with a common nutmeg-grater ; this last process will be found (generally) most convenient, as it enables the practitioner to reduce it, at once, to a very fine, and equable powder, even if the crust is imperfectly dried.

The tincture is prepared by simply digesting the qroken or powdered crust in diluted alcohol, or common brandy, exposed to a gentle heat for eight or ten days, in the proportion of one part of the former to four of the latter.

The doses of the powder vary from two to twenty grains ; it may be given diffused in any liquid which the patient fancies. With young patients it is safest to begin with the minimum, and increase very gradually to the maximum doses. Should the disease yield before the largest doses are reached, no further augmentation need be made. When the tincture is employed, from ʒss. to ʒiss. are its extreme doses. Diluted with water and sugared, it may be given

* The United States Medical and Surgical Journal, Oct. 1835.

with very little difficulty to the youngest subjects, as it is tasteless, and in a great measure inodorous. In this form, also, those doses, should be very gradually increased, to prevent, as far as possible, the danger of exciting the system too much, which might result from the menstruum, should the doses be suddenly augmented."

"With young subjects from six to eight years of age, two grains will, in majority of cases, constitute the commencing dose. We have never used it with patients younger than six years, or older than thirty. Older patients, say from eigh to twelve, or fifteen years of age, will bear four or five grains, or even larger doses in the commencement, and with such it may be more suddenly increased to the maximum doses without gastric disturbances. The remedy rarely offends the stomach when the foregoing precautions are properly attended to; on the contrary, it seems rather to compose and tranquilize this organ. Three doses, in a majority of cases, are as many as will be required in the twenty-four hours. Should cases occur marked by convulsions of unusual violence, with frequent paroxysms, it may be given oftener. From many trials with this article, it has not been perceived that there is much diversity of effect when employed in large or medium doses with young subjects."

The author remarks that, in obstinate cases, the crust should be continued for more than a year before it is discarded. He does not prohibit the use of suitable remedies as auxiliaries, during its administration.

OVARIAN DROPSY ACCIDENTALLY CURED. Dr. ADDISON.

[Guy's Hospital Reports.]

A female, aged 44, the mother of one child, was received into Guy's Hospital on the 19th March, 1834. She had had ovarian dropsy for several years; but, nine days previous to entering hospital, she fell, and a pair of steps, on which she had been standing, fell across her abdomen. Sho immediately suffered excruciating pain—became sick and faint—and soon perceived that the fluid accumulation which had been circumscribed, was now diffused over the abdomen, rising to the diaphragm and obstructing respiration. She had then, no doubt, an attack of peritoneal inflammation, for which she was treated—but afterwards entered the hospital. Her abdomen was now distended with fluid, and very painful—pulse 98—urine copious—and she had passed blood by stool—she was bled, fomented, and took calomel and opium, under which treatment she improved. Her mouth became sore on the 22d, after which the fluid rapidly decreased. On the 5th of April no fluctuation was perceptible. Still the remains of the cyst could be felt stretching across from one iliac fossa to the other. She had afterwards an attack of phlegmasia dolens, which was soon cured. She is now living as a servant in Cheapside, and can yet distinguish a small tumor in the left iliac region. She had no return of the dropsical enlargement.

We fear that it would not be quite safe to imitate this accidental mode of curing ovarian dropsy.

CASE OF LOSS OF THE UTERUS AND APPENDAGES SOON AFTER DELIVERY. By JOHN CHARLES COOK.

Mr. Cook has published this case in the form of a pamphlet. The case itself is of too interesting a complexion to pass unrecorded in the pages of this Journal.

At 4 A. M. of the 22d of May, 1835, a midwife of Coventry, was sent for to a woman in labour. On her arrival, she found the woman, who had already been in labour 48 hours, upon her knees, and insisting upon being deilvered in that position as being the custom of her country (Ireland).

With some difficulty she induced her to lie upon the bed, in order by an examination of the parts, to ascertain how far the labour had advanced. Upon

this being done, the Os Tincæ was found dilated to about the size of half-a-crown; the child's head presenting as usual. Every thing went on well, and the woman was delivered at seven o'clock the same evening of a living child. The placenta followed whole in a quarter of an hour, being expelled by a pain.

No hæmorrhage whatever ensued at the time, although a considerable quantity of blood was lost during the night. The after-pains were trifling, and when the midwife visited her the next morning, she appeared in a very satisfatory state. So well, indeed, did she feel, that notwithstanding the strict injunctions of the midwife to the contrary, she partook plentifully of animal food, immediately after her departure. At 4 A. M. of the 24th, the midwife was again hastily summoned. She ascertained the following particulars:—that the woman had risen during the night, and had gone into an adjoining room to make water; that whilst there she had, by her screams alarmed her husband, who called in some of her neighbours and upon entering the apartment, they found the woman seated on a stool, before the fire, with a vessel of warm water in front of her, and a large substance,which they compared to a child's head and neck,lying between her thighs, supported by her hands. They then sent for the midwife, believing it to be a case of twins, and being greatly alarmed at the quantity of blood she had lost, the hæmorrhage having been profuse. She was now lying on the bed, pale from the loss of blood, which had been excessive. On examination, the midwife discovered a hard substance, lying on the bed, loosely connected to the vagina by a shred of membrane only. The substance she immediately recognized as the Uterus, and lifting it gently, removed it without difficulty or effort, and placed it in a wooden bowl. The hæmorrhage then ceased, and the midwife, after a short delay left the house, taking the uterus to our author's father. He found that it really was an uterus inverted. The only part absent was, the left ovary.—Mr. Cooke, senior, visited the woman at 11 A. M. and found her completely exhausted from the hæmorrhage, (which by this time had ceased); she was extremely restless and agitated, constantly throwing her arms about; pulse scarcely perceptible. Upon enquiry he found she had passed some urine shortly after the loss of the uterus, as also between 9 and 10 the following morning (Saturday). He was also informed that her bowels had not been relieved for a period of at least 9 days before delivery, except a mass of hardened fæcal matter which was discharged, with the last pain in the labour. The woman did not much complain of any sensation like bearing down, nor of any substance lying in the vaginia. She did not appear to suffer much from pain: neither was their much distention of Abdomen, nor was there then or at any time during the progress of the case any thing amounting to more than a slight degree of tenderness, which, however, was hardly noticed except upon pressure. As there was no protrusion of the pelvic or abdominal viscera, and as there were no urgent symptoms, Mr. C. determined not to incur any risk by instituting an examination per vaginam. He merely enjoined quietude and the horizontal posture, with a light farinaceous diet.

In the afternoon the pulse rose to 140. The patient passed her urine freely during the night, and next day presented no unfavourable symptoms. In short, no material symptoms ensued, and she perfectly recovered without any surgical, and scarcely any medical treatment.

Previous to her confinement, milk was secreted in considerale quantity, but immediately after the loss of the Uterus this secretion, together with that of the Lochia was arrested. Notwithstanding this, and in spite of the remonstrances which were made to her on the subject, she persisted in applying the child to the breast, which induced considerable pain and hardness of the right mamma, attended with a good deal of febrile excitement. These symptoms subsided upon the exciting cause being removed. When her health had been in some degree re-established, she again gave the child the breast, and

persevered in doing so during several weeks, until finding that she had no milk she finally desisted. The child has since died of diarrhœa.

"Owing to her constant and obstinate refusal to permit any examination per vaginam to be made, after her recovery, I am not able to give any description of the state of the parts at the present moment: the most probable supposition is that the vagina forms a cul-de-suc in consequence of the adhesion of its opposing surfaces. In this manner we may easily account for the viscera remaining in situ after her return to her ordinary active habits. It will be recollected that considerations of this nature, induced my father to refrain from instituting an examination when first called in. The idea is further strengthened by the fact, that sexual intercourse has repeatedly been had with her husband, no mechanical obstruction existing.

In connexion with the loss of one ovary, it is interesting to be able to state, that, although no impediment to coitus exists, yet the usual feelings and desires are entirely wanting. This might have been anticipated had both ovaria been removed, but from the fact of one of these bodies still remaining in situ, some degree of doubt might have been entertained.

Of course, after the loss of the secreting organ, the menstrual discharge has never re-appeared; even the small quantity occasionally furnished by the vagina has not been observed."

This is certainly a curious case, and it appears by no means clear, why the uterus should thus be torn away, as there seems to have been no violence employed—or why, the uterus being removed, no descent of the viscera should occur. In the absence of any certain information on these points, speculation would be idle. The most interesting physiological consideration is the complete cessation of milk and of the lochia. A striking instance—the disappearance of the milk—of the mysterious connexion between even distant organs, associated in their functions in the animal economy.

The following is the description of the uterus. It is aided in the pamphlet by a lithographic sketch.

"In size it nearly equalled an ordinary child's head at term. No laceration of any kind was visible except a slight rent in the posterior lip of the Os Uteri, Fig. 1, C. The attachment of the Placenta was distinctly marked, being of a deeper brown red, than the remainder of the mass: its site was also rendered further evident, by a quantity of flocculent matter still adherent to the walls of the uterine cavity. It was inserted over, and concealed the openining of, the left Fallopian tube. This orifice was easily discovered by detaching with a nail a small portion of the loose flocculent substance already mentioned.

The vessels were large and tortuous, and their patent state sufficiently accounted for the great hæmorrhage which had occurred, both after the removal of the Uterus and during the night succeeding her delivery.

Upon making a section along its anterior aspect, the broad ligaments, with both Fallopian tubes, and the right ovary were discovered. The fimbriated extremities of the tubes were particularly clear and distinct, the left ovary appeared to have been detached, and to have remained in situ."

The case we repeat is interesting physiologically, as well as to the accoucheur, and Mr. Cooke has done right in publishing the particulars.

CASE OF NOTENCEPHALE. By Dr. HILDRETH, of Boston.

Dr. Hildreth has published this case in a pamphlet, which has been transmitted to us. We shall abstract only the main particulars.

The monstrosity was the third birth of a married lady, aged 35. There was no apparent reason for the occurence of the malformation. Labour took place about the eighth month. The fœtus was born within the membranes, so that respiration was impossible. But, for fifteen or twenty minutes after birth,

the motions of the arms within the membranes were distinguished by the mother.

The fœtus, a female, very fat and perfectly formed, except in the parts to be described, measured thirteen inches in length, and weighed three pounds one ounce. It had no neck; its face looked upward, slightly inclining to the left.

The vault or arch of the cranium fell directly backwards and downward from the brows; its cavity was very small, containing less than an ounce of the brain; opening by a large occipital hole of a flattened oval figure, capable of admitting the points of three fingers, one side of the occipital hole being formed by the spinal column, which was open throughout its whole length. The bones composing the arch of the cranium were completely ossified, and covered with well-grown hair, which descended as low as the base of the scapula, each side of the cerebral tumor.

The mass upon the back was at once recognized as the brain, covered with its appropriate membranes, through which the evolutions were very distinctly seen, large, and imperfectly developed. Beneath the membranes, a small quantity of dark-coloured serum was diffused, lying mostly in the sulci of the convolutions, giving them a deeper shade than natural; the membranes also being of a deeper color than natural, the mass presented a purple hue, which was heightened by considerable quantities of coagula, interspersed through the substauce of the brain.

The brain was invested externally by two thin, firm membranes. It was divided into two hemispheres by a falx, running obliquely down the back, from the right temple to the left sacro-iliac synchondrosis parallel to a lateral curvature of the spine.

The skin, from the sacrum to the occiput, was split, or divided and turned aside, so that the base of the brain reposed upon the true bodies of the vertebræ, the spinous processes being cleft vertically and turned to the right and left. The investing membranes did not perfectly envelope the brain, that is, they were not continued under the organ, but terminated at the edge of the true skin.

At the circumference of the brain, where the membranes came in contact with the true skin and hairy scalp, there was the most perfect cicatrization of the two textures.

The substance of the brain was soft —distinct lobes were not made out— nor could the convolutions be separated from each other. Considerable quantities of coagula were diffused in the substance of the brain.

The brain below the occipital hole, which reposed upon the vertebræ, sent off no nervous filaments, and had no nervous connection with the spinal nerves below, so that these spinal nerves were without cerebral influence.

The vertebral canal was open posteriorly, save in the sacrum, the spinous processes being vertically split in the middle, and turned to the right and left. In the sacrum was an attempt to form a canal, which was filled with a mass of reddish grey nerves, each nerve being invested with a tough membrane of great strength. There were in these nerves reddish grains, appearing like adipocire. They were also deposited between the nerves.

"The posterior faces of the vertebræ, as has been remarked, were covered by well formed dura mater, which was continued up the vertebral column into the cavity of the cranium, which it lined throughout. A very small and thin membranous bundle of nervous fibres were seen passing down over five or six of the processes of the left side; but, other than this, no trace of spinal cord was seen. A few nerves were seen going through the base of the cranium; one bundle appearing like the par vagum, passing the foramemen lacerum. The petrous portions of the ossa temporalia in the base of the skull, were moderately large; and the internal ear was most probably perfect, with its appropriate bones, canals, membranes and nerves; the foramen auditorium internum of the right pars petrosa was large and well developed for the admission of the seventh pair of nerves—the left pars petrosa smaller and without any apparent foramen. The membrana

tympani of both ears was perfect, well preserved, and is beautifully shown in the skeleton.

The optic nerves were large and well developed, the organs of vision being quite perfect.

The spinal nerves were large and well formed; when traced from the abdominal side of the spine through the intervertebral foramina, they were found to retain their full size, and pass directly into the dura mater of the spine, where they abruptly terminated, being firmly united with this membrane. These nerves were of a very tough, firm texture; the dura mater of the spine being not a hollow tube as usual, but a thick, firm solid membrane. The nerves of the trunk, the upper and the lower extremities, were all perfect and properly distributed."

The thoracic and abdominal organs were all formed, save that the two kidneys were consolidated into one, with three ureters. There was only one umbilical artery.

We need not dwell on the peculiarities of the skeleton.

The principle point of interest connected with the case, is the development of the spinal nerves, independently of brain or spinal cord—for they had no connexion with the former, and the latter was not present—another proof, if proof were wanting, of their comparative independence.

REMARKS ON THE PHOSPHORESCENCE OF ORGANIZED BODIES. By F. TIEDEMANN.

We have not yet been enable to notice the first volume of a translation of the Comparative Physiology of Frederick Tiedeman, which has been given to the Engligh public by Drs. James, Manby, Gully, and J. Hunter Lane. In our next number we shall probably direct more particular attention to this most valuable work. In the present instance we merely intend extracting a few remarks on a curious subject—the phosphorescence of organized bodies.

Organized bodies may be luminous either in the state of life, or when deprived of it.

Lifeless organic substances may shine by isolation, as seeds, starch, feathers, horn, &c.

Or, by the sction of heat, as wax, oils, wood, &c.

Or, by friction, as the resins.

Or, during combustion.

Or, when electricity is excited.

During putrefaction, both vegetable and animal substances are luminous. In dead vegetables, an evolution of light is most frequently seen in the wood, particularly that of the root, but also of the trunk and branches, when it is decomposed by a moderate heat, moisture, and without full exposure to the air. According to Dessaignes and Heinrick's experiments, the phosphorescence only occurs at the medium temperature. It disappears in frosts and great heat. Hot water put a stop to it, as also desiccation. The evolution of heat takes place in atmospheric air. Tiedeman is led to think that during the decomposition of wood an eminently combustible organic combination of carbon, hydrogen, and oxygen is produced, which, like phosphorus, burns and gives out light at the ordinary temperature. Possibly phosphorus itself is an agent in it, since the researches of Berthier have shown the existence of phosphate of lime in the ashes of very many woods.

Phosphorescene is much more common in dead animals than in vegetables. Most people are familiar with its occurrence in fishes. For the most part it begins a day or two after death, when the body is exposed to moisture in atmospheric air or oxygen gas, at a temperature from 12° to 18°.

"During phosphorescene in the air, a clear, liquid, mucilaginous matter is perceived on the surface of fishes, which becomes a little turbid, consistent and luminous. This phosphorescent substance may be abstracted by washing, being by this means made to combine with the the water, which is thereby rendered luminous. If fishes are put into glass vesssls with water, a glittering circle soon appears at the surface of the liquid; if the water is shaken, it

becomes luminous. The light disappears in water that has been boiled and is freed from the contact of air, but reappears as soon as the air reaches it. Phosphorescence ceases immediately on the commencement of fetid putrefaction. From all these facts it follows that the phosphorescence of dead animals is preceded by a decomposition effected by the influence of heat and air, whereby a luminous fluid is produced and given out. Probably it contains phosphorus, which is disengaged from the organic combination, and is consumed by a slow combustion."

Living bodies are phosphorescent; both plants and animals displaying this peculiar property.

The flowers of several plants, as the nasturtium, Indian pink, &c. have been observed to disengage light, like sparks, in serene and warm summer evenings. Yet the accuracy of the observations has been doubted, and the causes of the phosphorescence, if it really takes place are buried in obscurity. Pultney and Volta regarded it is an electric phenomenon. But Tiedemann thinks that more probably it is owing to the emanation of a combustible matter, perhaps a volatile oil, which enters into a kind of combustion under the influence of the air. The *Dictamnus albus* is said to spread around it, during the warm summer evenings, an atmosphere that takes fire on the approach of a candle, and gives a brilliant blue flame.

Many living animals, especially aquatic, exhibit luminous phenomena. Most of the sea-zoophytes, many crustacea, several mollusca, and even some fishes evolve light. To them is supposed to be owing the phosphorescence of the sea. Yet if animalculæ produce this appearance, how is it we find it in the sea and not in rivers? In the fresh water of the latter there are infusoria enough, and yet we must go the salt water for the luminousness. An immense variety of facts and references are produced by M. Tiedemann in reference to this subject. He shews satisfactorily enough the phosphorescence of the sea-infusoria, the medusæ, the sea-worms, mollusca, crustacea, and some fish.

Many insects living in the air are luminous. This is the case with many worms and beetles, but especially with the female of the lampyrus noctiluca.

"It is of a light bluish or greenish colour, and seems to envelop the whole of the insect. The male fly has a soft and delicate bluish light. It requires a temperature of about 55.7° for its appearance. The light of the female glow-worm is of a light topaz colour, with rather a tinge of green. The hour upon a watch may be distinguished by it. The light of the male is of the same colour. The fire-fly produces two degrees of light, the one fainter than that of the glow-worm, but without intermission. The second is a vivid white light, intermitting instantaneously, like vivid sparks of fire suddenly extinguished. Its power of illumination exceeds that of the glow-worm and all other animal light. The intermitting light gives the appearance of a membranous veil being removed from the surface of the organ, and suddenly drawn over it. The glow-worm requires a mean temperature of 50.7° for its appearance."—*Translators.*

The following resumé of the numerous observations on this curious subject is interesting, and must close this notice.

"Phosphorescence ordinarily commences at the close of twilight, when the shining parts appear like some points, which gradually increase. If animals are confined in a dark place before sunset, they begin to shine a long time before twilight. If they be exposed to the light whilst shining, their brilliancy is sensibly diminished, but always returns in darkness. The light is extinguished at the dawn of day, except in two points of the last ring, which continue to shed a feeble light, as was observed by Razumowsky and Macaire. Macartney remarks, that insects do not shine in the evening, if they have been withdrawn from the sun's rays during the day. Macaire made the same observation, at least, on the first day of the experiment. On the other hand, Todd and Murray found that all the species, although kept during the day in dark places, did shine less in the

evening, and even much sooner than when they had been exposed to the day light.

Carradori, Brugnatelli, Macartney, Treviranus, and others, observed that the emission of light is at the will of animals. Mueller and Murray think that phosphorescene is voluntary only, inasmuch as animals can retire and conceal the luminous organs behind the opaque parts. Treviranus explains the phenomenon by the faculty which insects have of accelerating or retarding respiration, and by the influence which he asserts the air exerts over the intensity of the light. Macaire thinks the power of the will on the production of light cannot be denied, because any noise or a blow on the animal sometimes causes it to cease shining, and the light then disappears, except in the two points of the last ring. He attributes the cause of the phenomenon to the influence of the nerves. It is moreover certain that the light is agmented by the movements of the body."

The phosphorescene of living animals is dependent on the temperature of the air, occurring only, under ordinary circumstances, when that is above 12°

The following are the sentiments of Tiedeman on the causes and the objects of this phosphorescene.

"Weighing well all the circumstances, phosphorescene would seem to depend on a matter, the product of the changes of composition accompanying life, and, to all appearance, secreted from the mass of humours by particular organs. This liquid probably contains phosphorus, or an analogous combustible substance, which combines with the oxygen of the air, or of aërated water, at a medium temperature, and thus produces the disengagement of light. The preparation and secretion of this substance are acts of life, which change, augment, or decrease by the influence of external stimulants, whose action on the animals modifies their manifestations of life. But the phosphorescene itself depends on the composition of the secreted matter, and cannot be regarded as a vital act, because, on certain occasions, it continues for whole days, even after the death of the animal. All that can be said on the utility of the light in the economy of shining insects, is that probably the preparation and secretion of the luminous matter is important to the preservation of life in these animals. Neither do we deny that this light may aid the sexes in finding each other at the epoch of copulation; at least it is observed that the males are attracted by the brilliant objects. Perhaps it may serve to protect them from the aggressions of enemies."

We shall return to this volume, containing, as it does, a mine of curious and valuable facts. In the mean time, we recommend it in the strongest terms to every professional man, young or old.

CASES ILLUSTRATIVE OF THE INJURIOUS EFFECTS OF ADMINISTERING STIMULATING REMEDIES DURING THE INFLAMMATORY STAGE OF GONORRHŒA. By HENRY JAMES JOHNSON.

In the 38th and 39th numbers of this Journal I published some remarks on what appeared to be the most judicious mode of treating gonorrhœa. The principal aim of those observations was to deprecate the indiscriminate employment of stimulating remedies, during the inflammatory stage of the complaint. Since that period many opportunities have occurred to me, of witnessing the mischiefs that ensue from the empirical exhibition of cubebs and copaiba, and the rash or unguarded use of injections. I have no doubt that, in the great majority of cases, stricture of the urethra is the fault of the surgeon—the consequence of his disregard of antiphlogistic remedies. Whilst the urethra is in a state of inflammation, it is additionally irritated by the operation of the turpentines, or balsams, or the application of injections, or even the introduction of bougies. Those principles which regulate our treatment of the inflammation of other mucous membranes, are too frequently forgotten or disregarded in the case of the urethra,

and surgeon and patient would seem to have made up their minds to the belief, that inflammation of the bladder, the penis, or the testicle, is a thing that may occur, as a matter of course—a part and parcel of the specific malady.

It would be going too far to assert that, under appropriate treatment, such inflammatory complications should *never* occur; but certainly they should *very seldom* occur. I am confident that their frequency will generally be in the ratio of the stimulating nature of the treatment. The opponents of antiphlogistic measures in the inflammatory stage of gonorrhœa, rest their objections on the tendency of those measures to occasion gleet. In the last two years, I have had the management of a considerable number of gonorrhœal cases. Of the patients whom I have treated two only have had gleet. In one, the discharge lasted upwards of a year, resisted every remedy I could imagine, and spontaneously disappeared on a visit to the country. In the other, the discharge existed for about two months, and was cured by blistering the inferior surface of the penis, and using an injection of the acetate of lead. I have not had, in the last two years, s single instance of hernia humoralis, or of any other inflammatory complication, with the exception of one case of inflammation of the absorbents of the penis. I certainly attribute this not to mere good fortune, but to the circumspection with which I make use of stimulating remedies.

My object at present is not to open up the question of the treatment of gonorrhœa, but simply to relate some examlpes of the effects of injudicious stimulation. If they succeed in awakening the attention of surgeons to the subject, and in making the less experienced pause in their employment of the measures that I deprecate, that will be sufficient.

I. Inflammation of the Absorbents of the Penis.

Case 1. I was requested to see a gentleman who had lately arrived from Ireland, where he had contracted this, his first, gonorrhœa. Whilst travelling he had done little for it. On his arrival in London, about a week after its first appearance, he applied to a medical man. At that time there was much pain in micturition, and the discharge was yellow and abundant. His medical attendant prescribed cubebs. Next day the discharge was diminished, but there was much scalding, and the penis appeared rather swollen. The cubebs was continued, with purgative medicines. The discharge decreased, but the swelling of the penis augmented.

Three days afterwards, the patient came under my care. The penis was then considerably swollen—the integument was rather red, and two red lines extended along the dorsum of the penis to the pubes. On examination I found two hardened cords, almost as large as the thin end of a common clay-pipe, stretching up the dorsum of the penis, beneath the reddened lines. They commenced at the loose prepuce, and proceeded to the groin, where one of them joined an absorbent gland, enlarged to the size of a filbert. These cords were tender on pressure. The glans penis was rather swollen, the discharge yellow but scanty, the pain in micturition considerable.

Leeches, evaporating lotions, diluents, confinement to the sofa, and the lowest diet, were prescribed, in addition to calomel and ipecacuanha at night, and senna, with colchicum each morning. A week or ten days elapsed, before the swelling of the penis had disappeared, or the more decided inflammatory symptoms had vanished. At the expiration of that time there was still some scalding, and thickened cords were felt. Purgatives with demulcents were persevered in, aud the mercurial ointment with camphor was applied to the penis. In about a week more discharge only remained. An injection of the acetate of lead and decoction of poppies removed this in the course of a week, and it never afterwards returned. I afterwards circumcised this gentleman, at his own request. He laid the whole blame upon his prepuce, and was determined to be quit of it.

I mentioned that a case of inflammation of the absorbents of the penis

had occurred, although antiphlogistic treatment was employed in the first instance. The following is the case in question.

In June, 1834, I attended a gentleman, about twenty-two years of age, for his first gonorrhœa. The symptoms were decidedly inflammatory at the commencement, and it was necessary to have him cupped upon the perineum, in addition to other measures of depletion. The pain in micturition ceased in about a fortnight, and, at the end of the third week, copaiba was taken, and an injection of the acetate of lead employed. In a few days the discharge disappeared, and the gentleman appeared to be well. But, after lying down on the grass, he was attacked with what was thought to be rheumatic fever. This occurred at his own place, some little distance from town, and the gentleman was under the management of a physician. At the end of three months he recovered—a permanent stiffness of the right elbow remaining. I am inclined to suspect that this was probably "gonorrhœal rheumatism," rather than simply rheumatic fever.

In June, 1835, this gentleman again became my patient, on account of a second gonorrhœa. It may be mentioned that this was contracted from the same female as the first had been. He came to me immediately after the first appearance of discharge. There was much redness of the glans—copious thin and yellow discharge—much pain in micturition—and a feeling (probably nervous) of aching in the joints. Antiphlogistic remedies were prescribed. The discharge and scalding increased rather than diminished—painful erections were experienced—and the prepuce became red and swollen. This was at the end of the first week. In a day or two a hard cord could be felt, extending from the prepuce to the pubes, and terminating there in an enlarged absorbed gland. Leeches to the penis and a perseverance in antiphlogistic treatment removed these symptoms, in about three weeks from the commencement of the gonorrhœa, and cubebs, with injections of the acetate of lead and sulphate of zinc, effected a complete cure in ten days or a fortnight more.

Inflammation of the absorbents of the penis may be regarded as not an uncommon consequence of inflammatory gonorrhœa. It generally commences with slight redness and puffy swelling, from serous infiltration, of the prepuce. Then a red line is generally, but not always, seen on the dorsum of the penis; and, whether this exists or not, a hard cord is always felt. It usually proceeds to an enlarged and inflamed absorbent gland on the pubes, or in the groin. Occasionally, a circumscribed enlargement occurs on the dorsum of the penis, immediately behind the corona glandis. In one case, I saw this terminate in suppuration. This is consistent with what we observe in cases of inflammation of the absorbents in other parts of the body. The inflammation here and there extends from the lymphatic to the contiguous cellular tissue, and abscess in the latter is the consequence.

The treatment of inflammation of the absorbents of the penis is too obvious to require much notice upon my part. Leeches—evaporating lotions with the acetate of lead—calomel—purgatives—diluents—and rest on the sofa or in bed—must be employed with more or less vigour, in proportion to the quantum of inflammation in the individual case.

II. ABSCESS IN THE CELLULAR TISSUE OF THE PERINEUM.

As the corpus spongiosum urethræ traverses a region—the perineum—abounding in cellular tissue, it cannot be a matter of surprise that inflammation should occasionally spread into that tissue, and occasion suppuration in it. This is sometimes productive of serious, almost always of troublesome consequences. The superficial fascia of the perineum, being closely connected with the fascia lata, at the tuberosity and ramus of the ischium, is apt to confine what matter may form, and to bottle it up in the perineal space. Between the superficial fascia which constitutes its floor, and the levator

ani, with *its* fascia, which forms its shelving roof, is a mass of loose and adipose cellular tissue, offering no resistance to the deposition of pus, readily killed when that is deposited, and reposing behind upon the rectum, and in front on the urethra.

The cellular tissue, although it transmits the vessels of the other tissues, is not itself very vascular. The free communications between its cells permit the rapid accumulation of fluids, and these, when accumulated, speedily strangulate the filamentous structure of the cells themselves, cutting off their small supply of blood, and occasioning their partial or general sloughing.—The series of changes from the simple effusion of serum and heightened vascularity of the cellular tissue, up to engorgement with lymph and pus, and consequent destruction, may be seen by incising a limb, in which subcutaneous diffuse inflammation exists.

Inflammation, then, of the cellular tissue of the perineum occasionally follows acute gonorrhœa, and may terminate in either of the following ways:—

1. It may form an abscess, pointing in the perineum, and communicating neither with the ureathra nor the rectum.

2. The abscess may communicate with the urethra.

3. The abscess may burrow deeply, communicating with the urethra or rectum, or both, and even terminating fatally.

I need not detail any cases of simple perineal abscess, consequent on gonorrhœa. Most surgeons must have seen examples of it, and it requires no particular method of treatment. The surgeon, however, recollecting the disposition of the cellular tissue in the perineum, should leech freely to prevent suppuration; and, if that has occurred, should use the lancet early and not be afraid to plunge it deep. An early, a free, and a deep opening will frequently prevent much mischief.

The following is a case of abscess communicating with the urethra.

Case. When house-surgeon to St. George's Hospital, I received a young man affected with complete retention of urine. He had been labouring under gonorrhœa, attended with much ardor urinæ and chordee. For these symptoms he took cubebs. The discharge diminished rapidly, but retention of urine came on. Ineffectual attempts were made by the surgeon who attended him to introduce a catheter. At the time of his admission he could pass no water—had great spasm and pain at the neck of the bladder—and some tenderness on pressure in the perineum. I passed a small silver catheter into the bladder, but pus gushed out before the urine. As it seemed evident that an abscess existed in the perineum, which had probably been opened by the instrument, it was desirable at once to obtain a free external opening for the matter, in order to obviate the risk of extravasation of urine. I therefore cut down on the perineum, in the direction of the tenderness; and, when the lancet was already up to its shoulder, out gushed nearly a tea-cupful of matter. The case terminated, as may be anticipated in fistula perinei, which was not cured when the patient left the hospital.

The following is an instance of the fatal results that may follow perineal abscess.

Case. A groom, with gonorrhœa, was taking copaiba, when he rode a great deal on horseback. What he called chordee succeeded, and then he was unable to evacuate his bladder properly. Some few days after this I saw him. He was in a typhoid state. Urine drippled from the bladder, which was greatly distended. There was a certain degree of fulness in the perineum. He was unable to answer questions rationally. I introduced a catheter with a great deal of difficulty, being obliged to give it a more abrupt curve than usual. An immense quantity of urine was thus drawn off. Supposing there was a putrid abscess, I cut with a scalpel deeply in the perineum, and let out much highly offensive matter. But the patient did not rally, and in two days afterwards he died.

On examination after death, there was found to be a very extensive

sloughy abscess, stretching into the pelvis. All the contiguous parts were in a confused and sloughy state. The mucous membrane of the urethra was entire, although the muscles and cellular tissue surrounding the membranous part were involved in the suppurative and sloughing process.

In a young man received into St. George's Hospital, with nearly similar symptoms, the posterior wall of the urethra sloughed, as did the anterior wall of the rectum. Of course the patient died.

If the surgeon suspects the existence of abscess in the perineum, his great object must evidently be, to procure an external opening for the matter, and to prevent its communication with the canal of the urethra. For this reason, a bold and early incision should be made in the perineum, and the introduction of the catheter should, if possible, be avoided. In the first case which I related, there can be little question that the catheter opened the abscess, and, by establishing its communication with the urethra, occasioned perineal fistula.

III. Inflammation of the Prostate and Neck of the Bladder.

The symptoms of inflammation of the bladder are familiar. Yet the earlier indications of inflammation of prostate and neck of the bladder would seem to be frequently neglected, and sometimes misunderstood.

The patient usually perceives that the discharge is lessened—perhaps that it has disappeared. At the same time, he experiences a sense of fulness, if not actually of spasm, deep in the perineum. He is obliged to make water more frequently than usual—he passes smaller and smaller quantities when he attempts to void it—the effort to do so is attended with spasm, or arrested by it—and, at length, the retention of urine is complete. These symptoms may steal on gradually, or suddenly make their appearance. In irritable persons the suffering is considerable—in those of an opposite habit, they are comparatively slight. When retention occurs, its usual consequences follow—distention of the bladder to a certain point, pain above the pubes, dribbling of urine, and so on.

A slight degree of frequency of making water is common enough in gonorrhœa, and need not occasion alarm.—But when the urine is frequently passed, in small quantities only, and with spasm in the act of passing it, the surgeon should beware, for inflammation of the neck of the bladder is occurring.

What is to be done? Should the catheter be passed at once, or should antiphlogistic remedies be previously adopted? This is a question which has occasioned much dispute. Yet probably the following practical rule is the safest and the best.

If the retention is not complete, let the patient immediately be cupped in the perineum, and placed in the warm bath. Calomel, with tartar-emetic and opium—and salines with diaphoretics, and especially with Dover's powder, should be given—opiate enemata used—and the bowels cleared out by senna, combined with colchicum. The cupping and the bath should be reported more or less, in accordance with the circumstance of the case. These means will soon enable us to determin whether the retention will or will not yield to antiphlogistic measures. If it does, so much the better—if it does not, the catheter must be employed.

The same rule may be laid down in cases of complete retention. But the time for experiment is brief in this case. Here, also, general bleeding is sometimes beneficial.

I must say that, in the majority of cases, the catheter is required at least. Then why not, it may enquired, have recourse to it at once? The reply is satisfactory to my mind. As retention of urine, in this instance, depends on inflammatory action, nothing can be lost, and much may be gained, by the adoption of depleting and tranquillizing measures. Though the instrument is used afterwards, it is used under more favourable circumstances, with a slighter probability of doing mischief than when pushed through parts in a state of extreme irritation and excitement. The

judgment of the surgeon is seen in his discrimination of the period beyond which delay would be disadvantageous.

I will merely mention two cases in illustration of the preceding observations.

Case. I was requested by my friend Mr. Hering, of Foley Place, to see a gentleman then labouring under retention of urine. He had had acute gonorrhœa, and had taken, as I understood, much exercise. When I saw him the retention of urine was complete. There was great pain about the pubes—much fulness in the region of the bladder—great spasm in the situation of its neck. The pulse was full —the cheek flushed—the skin hot.

We immediately agreed on bleeding the patient to sycope—put him in the hip-bath, (a general warm-bath could not at the instant be procured,) and gave salines with ipecacuanha and Dover's powder, to maintain the nausea and perspiration that the bleeding had produced. An opiate enema was also given.

In a few hours afterwards I again met Mr. Hering. No water had been passed, the desire to evacuate the bladder was incessant, and the attempts as painful as fruitless. It was evident that the urine must be drawn off. I attempted to introduce the smallest silver catheter.* The spasmodic contraction at the membranous part of the urethra rendered it impossible to enter the bladder without the enployment of force. I laid aside the catheter, and took the very finest catgut bougie, and passed it very gently and stealthily on, rotating it on its axis, and taking care to pull firmly on the penis, in order to render the canal of the urethra as straight as extension could make it.* With a little patience the catgut bougie passed into the bladder. After retaining it for a few minutes in the part, I withdrew it, and introduced in a similar way a rather larger wax bougie. This also was retained for a short time, when the patient was directed to endeavour to make water, and then in the very midst of his efforts, the bougie was suddenly withdrawn. No urine, however, followed. I now took a very small gum catheter, deprived of its stilet, and introduced it like a bougie. It entered the bladder with little difficulty, and the water was drawn off.

I need not pursue the subsequent treatment. Salines with diaphoretics and sadatives—opiate injections—calomel and opium at night, and senna with colchicum in the mornings—leeches to the perineum, and abstraction of blood from the leech-bites by the application of cupping-glasses;—these measures gradually allayed the irritation and inflammation of the neck of the bladder. In about ten days the gentleman began to get about. Discharge remained, but we were very cautious in our interference with it. Ultimately this was checked by small doses of cubebs with nitre and soda, and injections of the acetate of lead.

Case. About three weeks ago a gentleman consulted me under the following circumstances. He was an officer in a regiment stationed in India, and was now in England on sick-leave.—About a month prior to my seeing him he contracted his first gonorrhœa. He went to an eminent surgeon in London, who immediately ordered him injections of the sulphate of zinc and cubebs. The discharge soon diminished, and in

* The regular sizes of the instrument makers do not descend low enough in the scale. A very good and convenient silver catheter can be made two sizes below the No. 1 of the shops. The best catheters are undoubtedly those recommended and used by Sir Benjamin Brodie. The catheter is shorter, and describes a smaller portion of a circle at the curve than those commonly employed. It is also set in a wooden handle, which makes it very manageable.

* This is the great rule to be attended to in the introduction of *bougies*. We have no power in directing them, and we must make the urethra as straight as possible, that their point may not hitch in any of its culs-de-sac or dilatations.

about three weeks from the commencement of the complaint disappeared.—But at this time he experienced a desire to pass his water frequently, made only trifling quantities at a time, and had much spasm in the act of micturition in the perineum, as well as pain above the pubes. He mentioned these symptoms to the surgeon who attended him, but was told they were of no consequence. They increased, and when the gentleman applied to me, he could only make about a wine-glassful of water at a time, was obliged to pass that very frequently indeed, had very great spasm at the neck of the bladder, and fulness of the pubes.

I ordered the gentleman to be cupped immediately, and to take the hot-bath—gave him calomel and opium at night, senna, &c. in the morning, and demulcents with sedatives during the day—and prohibited his rising more than was absolutely indispensable from the sofa. The cupping was repeated two or three times, and the other means were vigorously followed up. But after some days no material improvement had ensued, and reluctantly I was compelled to employ the catheter.

A No. 5. could not be passed. After giving a more abrupt curve to a No. 2, such a curve as is required in cases of enlargement of the prostrate, I introduced that sized catheter into the bladder—yet not without some difficulty, for the muscles of the membranous part of the urethra contracted very violently. A large quantity of high-colored urine was drawn off.

On making an examination by the rectum, both lobes of the prostate were felt greatly enlarged, and evidently projecting into the bladder. They were extremely tender upon pressure. The whole membranous part of the urethra was thickened, indurated, and tender when pressed. I was much afraid, from the great size of the prostate and its excessive tenderness, that abscess would occur in it.

The cupping on the perineum was repeated—calomel was given so as slightly to effect the mouth—salines, with hyosciamus, &c. prescribed—purgatives continued—and the hip-bath, with frequent injections of warm water into the rectum, and occasional opiate injections followed up.

It was necessary to introduce the catheter daily for a week. After the bladder had been once emptied even the power of voiding the smallest quantity was lost. At the end of the week, the gentleman gradually regained the ability to pass his water, and now empties the bladder perfectly. The enlargement and induration of the prostate have diminished, but they have not yet (March 2) disappeared. The urine is passed in a great measure by spurts, and no doubt some constriction of the membranous part of the urethra exists. The urethral discharge and ardor urinæ returned as the inflammation at the neck of the bladder was relieved. At this time, too, the absorbents of the penis became inflamed, and an indurated cord on its dorsum led to a circumscribed induration of the prepuce behind the glans. This is almost gone, and the patient is gradually, though by no means rapidly recovering.

The length to which this paper has extended forbids the indulgence in further observations as well as the introduction of other cases. I would simply mention that, taken in connexion with the cases and remarks already published, these shew, or serve to shew, that the inflammatory consequences of gonorrhœa are sufficiently frequent and important to induce a judicious surgeon to pause before he pursues that indiscriminate, stimulating, and empiric mode of treatment, so constantly employed in this complaint.

My object has been to dwell upon the circumstance—though, although gonorrhœa is a specific inflammation of the urethral mucous membrane, yet, like other specific inflammations, it displays a remarkable tendency to give rise to ordinary inflammation in contiguous or associated tissues. I have also insisted on what is consistent with reasoning, and I believe, with fact, that that tendency is heightened, greatly heightened, by the administration of general or local stimulants during the inflammatory stage of clap.

Far be it from me to recommend de-

cided antiphlogistic treatment for simple gonorrhœa. But whilst there is *much* pain, and if there are *any* symptoms of inflammation of the lacunæ—the cellular tissue of the penis, or of its absorbents—the corpus spongiosum—the perineum—the protate—the bladder—or the testicle, I would recommend the surgeon to discard all idea of arresting the discharge, and to direct his attention to averting the impending mischief. In our profession, to be successful, we should first be safe.

ADVANTAGES OF POSSESSING NO ADVANTAGES.

Our Doublin contemporary has latterly talked much in King Cambyses' vein. Every number now breathes battle, and murder, and sudden death, to the misguided wretches, who are disposed to question the purity and excellence of the Dublin Colleges. We are really alarmed when we read such manifestoes as this:—

"We are fully aware of the designs of our enemies, and prepared to meet them; we are girded for the fight, and that fight shall not be with shadows, but hilt to hilt, in the face of our fellow citizens."

Ave Maria! Why Ancient Pistol was nothing to these gentlemen,who no doubt will not only kill their enemies but eat them. How valiant is the declaration, that they don't intend to fight with shadows. No adversaries short of men in real buckram will satisfy such fiery spirits. The White-boys and the Terry Alts had best come over the water at once—their occupation's gone.

It would be curious to acertain the causes of this infusion of ferocity in our erst peaceable contemporary. Hitherto displaying the philosophical placidity of science, he on a sudden gnashes his teeth and bites his tongue, as though he were in a fit of the falling sickness. To use an ocular pun, we should suppose a new humour had been found in him—an aqua Jacobi. Yet no aqueous humour but ardent and inflammable as the purest potsheen of Tipperary.

We have no intention of entering the lists with our contemporary. He is far too bloody-minded for us. We therefore leave him to fight his fights, and annihilate his already annihilated enemies. This sort of prowess has been commemorated:

> "Moved at the sight, the King grew vain,
> And thrice he routed all his foes, and
> thrice he slew the slain."

But we are anxious to direct attention to an important discovery of our contemporary's. Some persons have supposed that the metropolis possesses many advantages for literary undertakings. Nay, so prevalent is this absurd idea, that men actually repair to it for the purpose of conducting them with more effect. It has been supposed too by reflecting people, that professional experience and attainments are usually best obtained and displayed in the vast theatre for observation and for enterprise that a great metropolis presents. The poets have been the folks who have babbled of green fields, but even the poets have generally found that, however sweet those fields might be, the richest soil and the brightest landscape were in Paternoster Row. The wits have ever congregated in the coffee-house, and not under the hedge. These, however, were the wits of days gone by—scurvy fellows, like Johnson, Dryden, Pope, Addison, or Goldsmith. The modern wits of Dublin are of another way of thinking. Speaking of a medical journal, they sagaciously observe:—

"Another circumstance is favorable to its success. The editors do not live in London. They are removed from the temptations to which they should be daily exposed in that great market, where reputation, good, bad, or indifferent, is bought, or sold, or exchanged, as openly as their fish at Billingsgate, or their cabbages in Covent Garden: we hail its appearance as evidence that the spell is broken, the 'tall bully may lift his head, and lie,' but the day of 'cushioning' is gone. Edinburgh, Dublin, Glasgow, Newcastle, York, Leeds, Manchester, Liverpool, Birmingham, and Bristol, are London now."

These towns may be "LONDONS" in

the estimation of their own inhabitants, for the Lilliputians do not think meanly of Lilliput; but they are not Londons notwithstanding. We will not argue this foolish question with our petulant contemporary. But we would ask him —why stop at Dublin, and York, and Manchester? If reputations are bought and sold like cabbages in London, why should they not be bought and sold like potatoes in his own town? Are parties so pure in the Green Isle? Are Irishmen now so united, that no favouritism, no jealousy can be developed in that land of calm enquiry? Philosophical people! no bickerings, no religious animosity exist amongst you. Occupied solely in the dignified abstractions of science, you resemble the clear, pure, mild, and mellow spirit that you quaff; and, animated by whiskey and universal philanthrophy, you flourish your shillelahs and break each other's heads, without those sordid motives of provocation or resentment that disgrace the calculating denizens of London.

That such is the tranquil condition of the medical profession in Dublin must be evident, from the following statements of our contemporary. The intelligent reader will perceive at once how admirably adapted such a state must be, for the support of candid and independent criticism.

"Once for all, we declare most solemnly, and without the slightest apprehension of refutation, that the efforts of the real friends of reform and improvement in Dublin, have had but one difficulty to encounter in the course of many years' labour in the cause, and that difficulty has been the intrigues, vexatious interruptions, and dishonest practices of the mock reformers. By their various subterfuges, a most formidable barrier has been raised against real reform, and a most convenient veil drawn over the delinquencies of the very men who intend to impute to others the shameful practices of which they stand convicted themselves. Among some of these gentlemen, we recognize certain heartless men, who coolly and systematically mix themselves up with controversies respecting medical education and similar matters, without feeling the slightest interest in them, or caring in the slightest degree for the result. Their end is to keep their names before the public, and to postpone that oblivion into which they feel themselves naturally sinking."

Placid as such society is, and calculated for the dispersion of every thing like partiality, we think our contemporary might have pushed his idea a little farther. If London editors are bad, because party and traffic thrive in it, surely the more remote the spot from the contaminating influences of either, the brighter and purer the editor must be. According to his own shewing, Dublin, and Liverpool, and Manchester are Londons now. But, alas, if they inherit the greatness, they will also inherit at least a portion of the vices of their prototype. Better, then, to place the nursery in the Hebrides, or the Isle of Man, or somewhere far distant from the seats of human thoughts and human feelings.*

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* Men would do well to think before they write. What are the Dublin Editars? Do they not live in the METROPOLIS of

"The first flower of the Earth—the first gem of the Sea?"

Have we ever accused them of *venality* on that account? Have we ever used a single disrespectful word towards them? Yet here is our reward! The *onus probandi* lies with the accuser. We cannot disprove that which does not exist; but we call upon our Dublin contemporary to adduce the shadow, either of proof or *probability*, that the conductors of this Journal ever condescended to bribery, corruption, or any species of venality. The accusation in question, would if unsupported by proof, subject a man, in private life, to disgrace and to contempt. As an assassin of character, we dare him to the proof of an iota of the grave charge which he has preferred. Conscious of our integrity, we put our accuser on his trial—substantiation of the crime in us—or conviction of unfounded slander in himself.

II.

SPIRIT OF THE FOREIGN JOURNALS, &c.

Perforation of the Stomach, opening outwardly; the Patient lived for three Years.

Mad. G. aged 80 had, for the last 30 years of her life, been subject to repeated attacks of sharp, severe pain in the abdomen, which had caused her body to be bent forwards almost double. The functions of the stomach had been always more or less deranged, and frequently she had fits of vomiting of large quanties of glairy and bilious matter. The appitite, however, had been usually very good, and, at her advanced years, her strength was so preserved, that she was still able to walk about, and to attend to the economy of her small house.

In consequence of the habitual stoop or curvature of the body forwards, there was formed a permanent fold of the abdominial integuments, extending for about eight inches across the epigastric and hypochondriac regions. In June, 1832, the patient, being then 77 years of age, without having experienced any unusual pain or annoyance, observed, one morning, that the front of her chemise was quite wet; on removing it, a jet of clear water streamed out through a small aperture in the transverse fold just mentioned. Nearly two litres flowed out. An oozing continued for three days, and then it ceased spontaneously, and was not renewed. The abdominal pains, which had so long afflicted the patient, were much mitigated during several subsequent months; but they never entirely left her. For the following two years and a half, there were alternately periods of exacerbation and abatement; the intervals of ease gradually became longer, and, at length, her health seemed to be quite restored. In January, 1835, the abdominal pains returned, and, after continuing with greater or less severity for several days, the old perforation opened afresh, and a large quantity of clear fluid escaped. On the patient swallowing some port-wine and water, it flowed out almost as quickly as it reached the stomach, and the same was observed after "potage au vermicel" had been taken.

At this period Dr. Bineaux, the reporter of the case, visited the patient for the first time. The abdomen was free from pain and tenderness, except along the line of the transverse fold. There was no nausea, nor any other severe stomach distress. The perforation was of the size of an ordinary pea, rounded, its edges red, and it was situated in the epigastric region, rather on the left side, about two inches beneath the cartilages of the ribs. The surrounding parts were not hardened, swollen, or otherwise diseased. This opening gave passage to any fluid the patient drank; and a quantity of gas also escaped. Occasionally, fæcal matter oozed out. The alvine and uniary discharges became greatly diminished in quantity, and the parient died on the 18th of the month. During Dr. B.'s attendance, the patient had not vomited once.

Dissection. The stomach contained a quantity of mucosity, and some semifluid aliment. The mucous membrane, throughout its greater extent, was healthy. Towards the pylorus, however, it was red, and its texture was considerably thickened. In the middle of the anterior surface of the organ, there was discovered a circular aperture, an inch and a half in diameter, having soft and smooth edges. The mucous surface here was but little discoloured. The aperature led into a cavity, from seven to eight lines in width; the sides of which were formed by cellular tissue, and the base by the portion of the abdominal integuments, through which the external opening had been formed. This opening did not exceed in width four or five lines.

The preceding case affords a beautiful illustration of the preservative effects of adhesive inflammation, after injuries or lesions of the internal viscera.

MM. Gerard and Lainé have published, under the auspices of MM. Chaussier and Percy, several examples of spontaneous perforation of the stomach. In most of them, the perforation was the result of a scirrhus or other morbid degeneration of the coats of the stomach.—*Archives Générales.*

The extraordinary and highly instructive case of perforation of the stomach, from a gunshot wound, recorded by Dr. Beaumont, and described at great length in our Number for January last, may be re-pursued with advantage after reading the preceding details.—REV.

ON THE EPIDEMICS OF INFLUENZA (GRIPPE.)

It is one of the most interesting themes of medical research, to examine the histories of various epidemics, with the view of ascertaining some of the more general facts or laws, as they are usually named, which relate to their appearance, dissemination, and departure. Such inquiries are of a high practical import, not only by suggesting the most powerful means of counteracting the more immediate evils which these diseases inflict, but also by ascertaining the utility or efficiency of quarantine restrictions in reference to them. That certain diseases are strictly contagious, or communicable by contact only, as several cutaneous diseases, syphilis, and, perhaps, we may add, the plague; that certain others are strictly infectious, or communicable only through the medium of the atmosphere, to those who are not far removed from the patients, as, for example, scarlatina, rubeola, cynanche parotidea, and, perhaps, also typhus fever; and that a third set, of which small-pox is an instance, may be propagated in both of these ways, and is, therefore, alike contagious and infectious;—these are facts which every medical man must admit. But the same degree of certainty does not belong to the character of some other diseases, which, by one class of physicians, have been considered to be communicable by infection from one person to another and, by another class, have been regarded as not at all infectious, but only as epidemically spreading, and seizing a number of persons at the same time, from the operation of the same widely-diffused agency. The history of the latest pestilence, which has brooded, like a bird of evil omen, over our own shores, as well as over those of almost every European country, we mean the Asiatic cholera, has made medical men attend more studiously to the important subject of epidemic influences. It will be remembered how patriotically active the contagionists of the orthodox Board of Health were at first—how copious and precise, and peremptory were the regulations (such, for example, as stopping all communication between the sea-port, where the scourge first shewed itself, and London by *sea*, and permitting the communication by *land* to continue!) which, it was believed, were to scare the monster from our isle, or to seize and hold him captive, if he dared to advance. We laboured to disabuse these men of authority over us, and the public at the same time, of the fallacies they were committing, and of the vain hopes which they were cherishing; and, most assuredly, experience has amply confirmed all our predictions. Had the cholera been a less frightful malady, we are shrewdly of opinion that we should never have heard much of its contagiousness. But medical men are far too apt to be so mystified and terrified, by any thing new or uncommon, that they are frequently led into the most foolish admissions and comissions, until again set right by experience.

The history of the yellow fever of hot climates, affords another apt illustration of the proceeding remarks. But we shall not expatiate on this subject, but proceed at once to draw the attention of our readers to a brief notice of the leading invasions of a third epidemic disease of not unfrequent occurence. Like the other two already mentioned, the influenza has been supposed by some to be communicable, by infection, from one person to another. We believe that the only reason for this supposition

is the circumstance of the cotemporaneous seizure of many persons with the same symptoms. But this is a most fallacious test, and in truth constitutes the essential character of an epidemic, rather than of a contagious disease. The invasion of the former is always more sudden, and its diffusion is much more rapid and more widely extended than in the case of the latter. Another distinguishing feature is, that a person labouring under an infectious disease may carry the communicable germ to a distance, and thus excite the disease in a place far removed from its original focus; but this is certainly not true of any epidemic disorder; and, lastly we may point to the interesting feature of the one class conferring an immunity,more or less complete,against subsequent attacks,* whereas no such character belongs to the other class of maladies.

The term "la grippe" was applied in France to the cattarrhal epidemic, (known in England by the name of the influenza,) in 1743, for the first time.

Before that period it was described as a "morbus catarrhalis;" an appellation too vague and general, and belonging properly rather to a class or set of diseases than to any one particular form.

It is more than probable that maladies very different from the "grippe" were comprehended under the denomination of morbi catarrhales, as we read "de febre catarrhali malignâ epidemicâ, anginâ gangrenosâ stipatâ;" a description which applies rather to malignant scarlatina, than to the genuine influenza. Whether the "pestilential and epidemic cough, which attacked almost the whole of Europe in 1580," was the genuine grippe, or not, we cannot now determine.

The derivation of the word "grippe," from the verb "gripper," to seize, to clutch, is disputed by Frank, who in his Prax. Med. Univers. Præcepta states, that its etymon is the Polish word chrypka, which signifies "hoarseness." The German writers call it the Russian catarrh, or the "lightning catarrh," blitz-katarrh, (from the suddenness of its seizure, and rapidity of its march,) and the Italians "mal del castrone" and "influenza;" the latter appellation being given to the disease from the supposed influence of the stars on its origin and diffusion.

The epidemic of 1743 invaded almost every country in Europe; and in many districts not a single family escaped its seizure. It broke out in the month of April, and disappeared in the following June.

It would be quite useless to detail its symptoms, as every man has seen cases of influenza, and the characters of one epidemic are very near the same as of every other. We observe that severe and obstinate headache was one of its most conspicuous symptoms. The same remark is applicable to the epidemic of 1833. "The treatment was generally an affair rather of diet and regimen than of any difficult medication; an observation which is true of more epidemics than the one of 1743. In those days, as well as in the present, there were many practitioners, who were too busy and officious, unwilling to leave any thing to Nature.

The next general epidemic was that of 1762. It has been described by various authors under the names "morbus catarrhalis," "febris catarrhalis epidemica," "catarrhal disorder," "allgemeine brust-krankheit," (general disease of the chest,) &c. Again the severe head-ache is enumerated as one of the most troublesome symptoms.

The disease seldom proved fatal, except to old asthmatic people, and to those who had a tendency to pulmonary consumption. Many of the patients, however, retained for a length

* Not to allude to the extreme rarity of second attacks of variola, scarlatina, and other eruptive fevers, it is worthy of notice, as a fact which is not so generally known, that persons who have once had the plague, are in Egypt and Turkey considered to be not liable to its return. All the nurses and attendants in the lazarettos are "speste," i. e. "unplagued," or secure from the plague.

of time a feverish cough, and recovered their strength, but very slowly.

The epidemic of 1775 was not less widely diffused than its predecessors. It broke out towards the end of April, in almost every country of Europe, except England, where it did not make its appearance until the following Autumn. It was noticed at the time that the atmospheric vicissitudes which had been so remarkable during the year 1775, were considerably later in being experienced in our island, than elsewhere.

Very few persons escaped altogether the influence of this epidemic, and it was particularly noticed that it affected and modified the characters of other prevailing disorders.* Most of the domestic animals, as horses, dogs, and fowls, suffered more or less from the epidemic, being affected with cough, and general malaise. In the descriptions, and they are very numerous, left us of this epidemic, the critical reader cannot fail to notice the tendency to a continuance of severe local pains, sometimes in the head, at other times in the chest, loins, &c. for a length of time after the subsidence of the feverish symptoms. A full dose of the paregoric elixir at bed-time, and the use of mild tonics during the day, were the best antidotes to these sequelæ of the disease.

The next epidemic which deserves our notice is that of 1782. Before its appearance, the atmospheric changes had been very great. From cotemporaneous reports we learn that, previously to its invasion of Europe, it had been felt at Astrakan, Tobolsk, East Indies, and perhaps also in China. In January of 1782, it broke out at Petersburg. The thermometer had, in the course of one day, risen from 35° cent. below zero to 5° above it; and on that day, says Mertens, forty-thousand persons were seized with the influenza. In March it reached Poland, the shores of the Baltic and Denmark, and was known in these countries by the name of the catarrhus Russicus, or morbus Russicus. In May it passed over into Germany and England; in July it invaded Scotland and France; in September it visited Italy, Spain, and Portugal, and, in November, Belgium which had hitherto escaped, was stricken with the distemper. But Asia and Europe were not sufficient to appease this insatiable monster; "elle parcourut non seulement toute l'Europe, mais encore toute la terre." America was not exempt from its passing dominion, and even the crews of ships at sea sickened from its pestilential miasm.

The epidemic of 1830 was quite as widely diffused as its predecessor. Like all the preceding epidemics it came from the East, and appeared after great alternations of atmospheric temperature. The headache was a very prominent symptom: it was usually confined, at least in an especial degree of severity, to the forehead and root of the nose, and sometimes was accompanied with an extremely sensitive or neuralgic state

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* The influence which epidemics have on the type or characters of other diseases has been frequently remarked. The history of cholera, and that of some intermittent and remittent fevers furnish numerous illustrations. Dr. Marcé, speaking of an epidemic aguish fever which pervaded the department of the Loire-Inferieure in 1827, has the following remark. "Such was the influence of the reigning epidemic, that diseases the most different in their origin and symptoms assumed an intermittent and remittent character. A soldier, having exposed himself after violent exercise to a current of air, was seized with a tertian fever. An old man, who had met with an injury of the head, was affected with a 'soporose complaint having evidently a remittent character.' A coachman, who was labouring under stricture of the urethra, had an attack of well-marked ague after every introduction of the catheter.—(This is of not unusual occurence in all seasons, healthy or not.)—*Rev.*

In the treatment of traumatic fevers, it was frequently necessary to have recourse to the use of sulphate of quinine, in consequence of their intermittent type."

of the integments of these parts. The chief point of interest in the history of this epidemic is, the circumstance of its having preceeded by a short interval, the appearance of another more formidable epidemic, we mean, the pestilential cholera. Between two and three years only elapsed, until the influenza again diffused itself over Europe. The numerous accounts in the various domestic as well as foreign journals furnish a most ample history of the epidemic of 1833, which seemed to follow the march of the cholera, advancing as its rival receded. We observe that the Italian doctors, have indigenised the work "grippe" in their own soft musical language. Dr. Tinelli has communicated to the t. lxviii. of the Annali Universali a "Rapporto del Grippe che domino nella citta di Montova."

Dr. Richelot has published the reports of several cases which he attended at the La Pitié; but the only allusion that we can make to them is to remark, that in some instances, a painful swelling and enlargement of one or of both of the lower extremities supervened, as the feverish symptoms subsided.

If our memory serves us right, Dr. Tweedie has made mention, in his treatise on fever, of the occasional occurrence of such an accident in the decline of the disease: and we find that, so far as 1759, Dr. Hillary, in his Observations on the Dis. of Barbadoes, has written as follows:—"Towards the end of February, 1755, a number of persons were attacked with an epidemic catarrhal fever. In the greater number of the cases, one of the lower extremities became inflamed and much swollen, presenting the appearance of elephantiasis, but without any of the tumefaction in the groin, and the red streaks which usually extend from the groin to the leg in that disase."

In concluding his paper, Dr. Richelot has pointed out the leading features which are common to all the recorded epidemics of the grippe. They have all come from the east, travelling from the north-east towards the south-west: their attacks have been sudden, and in several parts of a city or district at the same time—their diffusion has been very widely spread—their duration short, and none of them has proved very destructive to life.

The influenza is truly a disease "sui generis;" it is essentially a constitutional or general disease, and not a mere "bronchite aigue," as some of the localising anatomical physicians of the present day would wish us to believe. The mucous membrane of the bronchi and trachea is, no doubt, irritated or slightly inflamed; but this affection is one only out of the many symptoms. It is unnecessary to allude to the treatment of a disease, which, in the majority of cases, may be left to the care of the kind nurse. When it attacks persons already suffering from illness, especially if the illness be seated in the lungs, the attendance of the skilful physicians may save many a valuable life. Asthmatic and phthisical patients are liable to have all their distress greatly, and often alarmingly aggravated by an attack of influenza.—*Archives Gen. et Annali Universali.*

On the Employment of Sheet-Lead, as an Application to Wounds and Ulcers.

M. Reveillé Parisé informs us that, when he was with the French army, at the famous siege of Saragossa, in 1808—9, the supply of medical stores for the wounded had been altogether expended, and that he was obliged to have recourse to a variety of substitutes for lint, plaster, and other dressings. Under these circumstances, he happily thought of using thin sheets of lead, which had the double advantage of being easily procured (by beating out common musket-bullets), and of being easily kept clean. Fortunately, too, this novel dressing was found to promote the cicatrization of many wounds. The plates must be as thin as a sheet of writing-paper, and uniformly smooth, especially where they are applied to raw surfaces. It may be supposed that they are apt to become uneven and wrinkled, and that thus they must rather irritate the wound or ulcer; but this objection

applies rather to their misuse than to their proper employment. If they are secured in their place by bandages, well put on, it will be found that the lead-dressings are as smooth and comfortable to the patient's feeling as lint or any plaster. But it is not our present intention so much to recommend them to the exclusion of the ordinary applications, as to suggest their use as a most convenient and economical substitute on certain occasions. The expence of hospitals for the mere article of lint is very great; and in time of war, it is not very easy to maintain a constant supply of it. The quality too of lint, in the present day, is exceedingly variable, a large proportion being uneven, knotty, and, from being bleached by the use of chlorine, apt to be irritating to the tender surfaces of wounds. When the discharge from a sore is scanty, the lint dressing often adheres to the edges of the wound, and there is difficulty in removing it; and, when it is more profuse, the lint is apt to form, at one part, quite a bag of matter, which is thus prevented from an easy escape. However indispensable, therefore, lint may be on the whole in the practice of surgery, it cannot be denied that it has its disadvantages, especially when the supply is not abundant, or the quality is not the very best.

The manufacture of this article has of late very sensibly diminished, in consequence of all the linen rags being eagerly bought up by the paper manufacturers, and also of cotton cloths having come so much more than formerly into general use; "le prejugé (adds our author) ridicule qui faisait regarder comme malsain de se servir de draps ne coton, et d'envelopper less enfans dans les langes de cette substance disparait journellement." In consequence of the increased price of good lint, a variery of substitutes have been proposed. One of these is a fine sort of tow, prepared in a particular manner, and to which the name of "charpie vierge" has been given by the French surgeons; but the trials which have been made of this substance are quite unfavourable to its adoption. Should the lead plates be found by others to be as useful, as M. Parisé assures us they have been in his practice, he will have the merit of having introduced a very ingenious improvement into surgery. To prevent any misconception of his proposal, be it remembered that he recommends the use of the sheet-lead only to such solutions of surface as are "en voie de cicatrization," and not to recent or to spreading wounds. The ulcers to which the sheet-lead dressing is best suited, are those which are superficial and granulating, whose surfaces are covered with a layer of fibrino-purulent matter, and whose edges are red and even; in short, such as are healthy, and have a natural tendency to heal of themselves, if protected from all sources of external irritation. On the other hand, for ulcers which are deep, irregular, and painful, or of which the discharge is very profuse, we must have recourse to poultices, or other appropriate dressings, until the signs of incipient cicatrization make their appearance, and then the sheet-lead may be used with the best hopes of success. The large superficial wounds caused by some burns and vesicatories, especially in young children, are admirably suited to this mode of dressing. Most surgeons will acknowledge that these apparently simple sores have often baffled them most teasingly; when the ordinary applications seem to be useless or hurtful, recourse should be had immediately to the sheet-lead. It ought to be secured in its place by compresses and bandages, or by strips of adhesive plaster.

The softness and pliancy of the metal enable the surgeon to give the plate any shape he may wish, and to cut it as he would do a piece of paper. It is perfectly innocuous, the protoxide of lead being well known, under the name of litharge, as a common application to raw surfaces. We do not by this remark, mean to imply that the lead plate acts in any other manner, than as a means of mechanical defence and support.

M. P. has tried sheets of tin, silver, and gold, and he has found them all succeed nearly equally well, provided they be made perfectly smooth, and

applied so evenly and uniformly, that no irritation is induced; but in point of ductility, the lead is greatly superior to tin, and its cheapness recommends it before the others.

That greasy applications are positively injurious to some ulcers, will not be disputed by any surgeon. How often do we observe that mere abrasions of the skin, situated over superficial bones, as the tibia, are obstinate and most troublesome of cure, and that all the ordinary dressings seem to do rather harm than good. If we apply dry lint, or use poultices or lotions, in the former case, the sore is apt to be fretted by the lint adhering to it, and in the latter, the disposition to heal often appears to be interrupted. Under such circumstances, the use of the lead plate will be found to be at once most simple and efficacious.

A gentleman while descending a staircase, wounded his heel against the sharp edge of one of the steps: the wound was small, and quite superficial, and instead of healing in the course of a day or two, as was expected, it remained open for several weeks, in spite, or perhaps rather in consequence, of a variety of ointments and plasters, which were successively tried. The patient annoyed that so trifling a wound baffled so much "doctoring," dressed it of his own accord with dry lint; but this would not do; the lint stuck to the edges of the wound, and confined the discharge, and the sore became deeper and larger than ever. M. Parisé's advice was now taken. A piece of smooth and very thin sheet-lead was laid on the wound, and kept in its place by two or three slips of plaster. Under this simple dressing, repeated for several days, the wound very speedily healed.

Every surgeon must have experienced occasionally a most troublesome delay in curing ulcers, or indeed simple abrasions of the skin over the olecranon, spine of the tibia, malleoli, &c. As a general rule, we should dissuade the use of greasy or adhesive plasters, or even of dry, or wetted lint in such cases; and advise the patient merely to cover the injured part with a piece of sheet-lead, or of any other equally simple and innocuous application, such as gold-beater's skin, and leave the cure altogether to Nature.

One advantage of the sheat-lead over the usual applications to which we have not alluded, is, that there is less necessity to renew the dressings so frequently, as when lint is used; for, the wound is kept much cooler, and the tendency of the discharge in hot weather to become acrid and offensive, is very sensibly diminished. There is one form of superficial ulceration, which is very often most difficult and obstinate of cure; we allude to herpetic and impetiginous sores. Now, although we do not mean to assert that the sheet-lead is adapted to every sore of this description, or that it has any healing efficacy "*per se*," we do not hesitate to recommend its use, in preference to the ordinary applications. Ointments, and all greasy or irritating plasters, very generally disagree with these sores; and on the whole, simple astringent washes appear to be most serviceable. The chief objection to the use of these is, that the linen, which has been wetted and applied, is apt to become occasionally dry, and to adhere to the raw surface, and thus to irritate it and prevent it from healing. The sheat-lead prevents the rapid evaporation, and thus keeps the sore in a moist state during the intervals of the wet application.

The sores which are apt to occur on œdematous limbs is another tribe which is often equally intractable, and which very often appears to be rather aggravated than relieved by the ordinary dressings. M. P. has had recourse to the use of mildly stimulating washes, and the sheat-lead with decided advantage, in a number of such cases.—Baron ——, advanced in years, had for some time been labouring under chronic hepatitis, which had at length induced ascites and general anasarca.

The distended skin of the legs became red, tender, and excoriated, in consequence of the friction of the bedclothes, and of the bandages with which the limbs were swathed. The excoriations were at some places so deep that they might be considered rather as ulcers than as mere abrasions of the skin.

The finest charpie, the mildest washes and ointments, were tried; but every means appeared only to aggravate the distress. M. Parisé being now summoned to his assistance, recommended that the limb should be kept in the horizontal position, the raw and ulcerated surfaces be covered with very thin sheet-lead, and this to be secured by a few turns of a linen roller. The comfort derived from this simple treatment was speedy and decided, and the sores began gradually to cicatrise and heal up. During the remainder of the Baron's life, there were frequent returns of his dropsical complaint, and at these times, the limbs always suffered in the above-mentioned manner. The same local treatment was adopted, and invariably with success.

As an example of the effects of the sheet-lead dressing in the ulcerated surfaces which are apt to follow the application of blisters in some constitutions, and especially in young children, we quote the following case.

M. P. was requested to visit a child, on whose arm a blister had been applied for an obstinate chronic bronchitis. The raw surface had never shewn any disposition to heal; it had become ulcerated, and had extended itself in all directions, so that nearly the whole arm, from the shoulder to the elbow, was excoriated and inflamed.—The child's health had suffered much from the constant pain, and irritation, and want of sleep. The dressing, which had been used, had been either utterly useless, or positively injurious. M. P. recommended that the arm be covered with a piece of thin sheet-lead, and no other application be used. In the course of a very few days, the whole of the raw surface was completely healed.

The sheet-lead is well adapted to most varicose ulcers. As a matter of course, regular and even compression of the limb must be employed at the same time. Professor Marjolin has recommended this treatment for such sores, in the article, Ulcere, Dict. de Medecine.

In conclusion, we may confidently recommend the use of sheet-lead as a dressing to all ulcers, which are superfical, and from which the purulent discharge is not very profuse; more especially when they have a tendency to cicatrization, and when, therefore, it is the principal object of a surgeon to defend them from any irritation which may interrupt the healing process.—Even when the suppuration is abundant, some practitioners have had recourse to the sheet-lead, with the simple modification of pricking a number of holes through the thin plates, for the purpose of allowing part of the matter to ooze out. The œconomy, cleanliness, and convenience of the remedy, as well as the avoidance of all irritation, itching and other distress, which are so frequently induced by the common dressings in certain ulcers, are such obvious advantages of the sheet-lead used as we have explained in the preceding observations, that they cannot fail to recommend it strongly to the attention of the practical surgeon.—We have only further to state, that the sheets or plates ought to be made of different thickness, and that they must be always perfectly smooth, even, and of such consistence, that they may be readily cut into any size and shape with a pair of ordinary scissors.—*Bulletin Generale de Therapeutique.*

When it is the wish of a surgeon to apply to a wound or excoriation an adhesive plaster, which is devoid of all acrimony, he will find none more useful than one made by washing a piece of oiled silk with a strong solution of isinglass in alcohol. The solution is promoted by immersing the vessel containing it in hot water. The common adhesive plaster, and the black court-plaster, often teaze and irritate a raw surface. The isinglass plaster requires to be slightly moistened before it is applied. Mr. Liston has the merit, we believe, of having first recommended it.

ON THE TREATMENT OF ERECTILE TUMORS. BY PROFESSOR LALLEMAND, of Montpelier.

CASE 1. *Erectile Tumor of the Gums and Lower Jaw.—Cure by Excision.*

A boy, nine years of age, had a fun-

guous tumor, situated on the gum of the lower jaw, extending from the right incisor teeth round to the first left molar tooth: it was indolent, of a purplish colour, mamillated, and felt soft and somewhat fluctuating to the finger.—The slightest pressure caused it to become smaller and paler, but on withdrawing the pressure it immediately recovered its former size and colour. The lower lip opposite to the centre of the tumor was of a violet red hue, and was traversed with numerous veins, much enlarged, as if they were varicose. Various attempts to remove the disease by excision and cauterisation had been ineffectually made during the preceding two years: the tumor had always quickly sprouted up again. M. Lallemand intended at first to have removed the entire substance of the lower jaw, where the disease was seated; but finding that the base of the bone was quite healthy, he was anxious to save as much as he could, in order that the continuity of the jaw might not be broken.

The lip being dissected back from the jaw, he removed every portion of the tumor with the knife; then applying the crown of the trephine, he endeavoured to saw off the anterior alveolar plate of the upper two-thirds of the bone; but this he could not easily effect, in consequence of the instrument coming into contact with the new teeth, which had not yet been protruded. After removing as much as he could with the "le trepan exfoliatif," he finished this part of the operation with the gouge and mallet. The actual cautery was then freely applied to every suspected point. The wounds of the soft part were brought and kept together by means of twisted sutures, and by bandages. The result was very fortunate. Union had taken place at the end of a week. Ten days later, a sequestrum of bone exfoliated, and in the course of another week, the cure seemed to be complete. In course of time, the new teeth, which had been exposed by the trephine, continued to advance; the canine exhibited the prints of the instrument.

M. Lallemand strongly urges on the attention of surgeons the propriety of endeavouring to save as much of the lower jaw in such operations, as may be done with safety. It is not common that the entire thickness of its substance is diseased; the mischief is generally confined to the anterior alveolar lamella.

Case 2.—*Erectile Tumor on the Upper Lip and the Edges of the Nostril. Cure by numerous incisions, and by the use of the twisted Suture.*

A child, five years of age, had been born with a red spot, of the size of a pea, on the centre of the upper lip. It had extended gradually, and had involved first the septum narium, and then the inner surface of the nostrils.

On his admission into the Hospital St. Eloi at Montpelier, the upper lip was red, and so much swollen, that it hung down over the lower one: the slightest excitement caused it to become distended and to throb strongly, and in other respects it exhibited all the characters of an erectile tumor.

To treat this case by compression, was impracticable: excision of the disease would have caused a most frightful deformity; and the chances of success, by tying the trunk of the labial, or of the external carotid arteries, were very unsatisfactory. M. Lallemand tried a new method. He excised from the middle of the fungus a triangular segment, (from eight to ten lines in breadth at its base, and pointing to the septum narium,) by means of sharp scissors. The blood streamed out with violence from a multitude of divided vessels, and the lip quickly recovered its normal size and colour. The edges of the wound were laid hold of, and compressed by assistants, and M. L. proceeded to unite them by means of a twisted suture; four needles having been inserted at some distance from the wound, and made to traverse the whole extent of the diseased part. The operation was finished, as in cases of harelip. The hæmorrhage was completely arrested.

Considerable febrile excitement and local distress came on, but in the course of two days, these symptoms subsided. On the fourth day the two uppermost

needles were withdrawn, but the coils of thread were not removed, and, on the following day, the other two needles were withdrawn. There was a trifling oozing of blood and matter from the small wounds, caused by the needles. At the end of the third week the threads separated, and exposed a firm and healthy cicatrix, extending from the centre of the lip to the septum narium.

Having obtained from this operation the result which he had hoped for, M. Lallemand repeated it on that part of the swelling situated between the cicatrix and the right commissure of the lips. In passing the needles through, it was found that there was considerably more resistance on the inner (*i. e.* nearest the cicatrix) than on the outer side. This circumstance indicated that the structure of the part had become agglutinated and hardened, in consequence of the inflammation induced by the previous operation.

A similar operation was subsequently performed on the left side, between the cicatrix and the left commissure of the lips. The results were quite as fortunate as on the former occasions. The lip, in course of time, recovered its normal size, and it no longer hung down over the lower one; all the parts involved in the operations were converted into "une espece de fibro-cartilage." The septum narium and the mucous lining of the nostrils remained, however, still tumefied, and M. Lallemand therefore, determined to pass several needles through the septum, for the purpose of exciting an agglutinative inflammation. In doing this, he found that the median cicatrix was much more firm and resisting than even the cartilage of the septum.

The ultimate success of this case was highly gratifying to the surgeon, who, by a simple and judicious practice, had saved his patient from the suffering, as well as the danger, of the more formidable operation of excising the tumor.

CASE 3.—*Successful treatment by Incision and the twisted Suture.*

A child, three months and a half old, was brought to M. Lallemand for advice respecting an erectile tumor, situated on the left cheek; it was about two inches long, and one and a half broad, and it projected nearly half an inch above the adjacent surface. It became larger, and of a more purple hue whenever the infant cried, and exhibited then quite the appearance of a large strawberry. This tumor had increased very rapidly from the birth, at which period it was only about a quarter of an inch in diameter, and not at all prominent. The impracticability of exercising a continued compression, and the risk attending an attempt to cut the diseased part out, induced M. Lallemand to repeat the operation which had succeeded so well in the preceding case. He made an incision through the entire thickness of the swelling, and in the line of its longest diameter; he then immediately united the edges of the wound with four needles, and secured these by numerous coils of thread, as in the operation for harelip. On the following day, the parts which were exposed were very painful, much distended, and of a deep purple colour. On the fifth day, the needles were withdrawn. At the end of a fortnight, a tolerably firm cicatrix was formed along the lines of the incision and of the punctures, and the rest of the swelling had much less of the purple hue which it had exhibited before. In four months, all that remained of this erectile tumor was a few red scattered points round the edges of the once diseased part. The skin of the cicatrix was still thin and shining, as after a burn.

CASE 4.—*Erectile Tumor on the Shoulder—Cure by the Twisted Suture, without Incision.*

The child was born with a red coloured spot, of about an inch in diameter, on the skin covering the left scapula. It rapidly increased, so that, in the course of three months, it measured at least three inches one way, and two another, and it had become considerably prominent above the surface. Its surface was mamillated, and of the colour of a ripe strawberry. Graduated compression had been tried for several weeks, but with no benefit. Afraid of

the excessive hæmorrhage which might follow the excision of this tumor, M. Lallemand decided to adopt a treatment somewhat similar to what had succeeded so well in other cases. Without making an incision through the diseased part, he merely passed twelve needles through its lower part, and "couvrit l'espace qui les separait par des circonvolutions nombreuses de fil ciré." Three days afterwards, he performed a similar operation on the upper part of the swelling. In this manner, he attacked successivelythe whole of its circumference, always leaving the needles in for about eight days or so, until an agglutinative inflammation had been fairly excited.

By the end of four weeks, all the circumference of the tumour, being either "affaissé," or in a state of suppuration, M. Lallemand intended to repeat the operations on its central part; but, most fortunately, a process of inflammation had already commenced there, and, in the course of a fortnight, the entire extent of the diseased substance was converted into a flat and uniform cicatrix. The treatment of this case lasted for nearly three months. During that period, 120 needles had been successively passed through different points of the tumour, and yet not one spoonful of blood had been lost, nor had the general health of the patient suffered for more than three or four days in all.

The case now detailed is interesting in an especial degree, from the circumstance of the cure having been effected by acupuncturation alone, without the previous step of incising, or partially excising the tumour, as had been practised in the two cases immediately preceding.

M. L. states that he now considers the incision to have been unnecessary in the third case; and that, in a similar example, he should recommend the use of the needles alone. The removal of the triangular portion of integuments practised in the second case, he also deems to have been uncalled for—a simple incision through the diseased structure would have answered as well.

The use of the ligatures may be necessary, and indeed ought to be adopted, whenever we intend to incise an erectile tumour; but, when we do not, there is, perhaps, not much occasion for them. M. L. alludes to the utility of frequent applications of the nitrate of silver to the minute wounds left after the withdrawal of the needles.—*Archiv. Général.*

Influence of Hypertrophy of the Heart on Cerebral Diseases.

It has been only within the last twenty years, that the influence of disease of the heart in inducing apoplexy and other serious disturbances of the brain, has been distinctly appreciated. In the writings of Morgagni, Baglivi, Lieutaud, and even of Corvisart,* we find nothing but merely vague and occasional mention of such a coincidence; and, perhaps, the first who clearly perceived, and unequivocally announced, the connexion between cardiac and encephalic disorders, is Richerand. In the 3d vol. of his Nosographie Chirurgicale, we find the following very expressive sentence:—"The dissection of patients who have died of apoplexy has proved to me, that the excess of force in the left ventricle of the heart is a more powerfully predisposing cause of the disease than a large head and short neck—a state of body which is supposed by most physicians to indicate the apoplectiform conformation;" and, in a memoir which he read before the Ecole de Medecine, he reports, among others, the case of the distinguished philosopher Cabanis, in illustration of the doctrine.

The left ventricle of the heart was found enormously enlarged and greatly thickened. Eight ounces of blood had

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* Corvisart states, that he had not quite satisfied himself that he had ever seen a case of apoplexy, which was evidently the effect of cardiac disease, but that the cases reported by Morgagni, Laurent, Lieutaud, Testa, and others, "suffisent pour établir qu'une affection du cœur peut devenir la cause determinate de l'apoplexie."

been effused in the ventricles of the brain, and this effusion had been so violent, that the septum lucidum had been torn through, and the surface of the thalami and corpora striata was rough and jagged. Malpighi and Ramazzini died of similar attacks; and in their cases also, the heart was greatly enlarged. In 1819, M. Bricheteau communicated a paper to the Journal Complem. des Sciences Medicales, in which he adduced several cases to illustrate the striking influence which hypersarcosis of the heart has in inducing apoplectic seizures. Subsequently to this date, MM. Lallemand, Broussais, Andral, Bouillaud, and others, have directed the attention of the profession to this very important pathological conclusion. M. Rochoux, indeed has both in his treatise on Apoplexy, and in the Dictionnaire de Médecine, art. Apoplexie, attempted to shew, that the coincidence of cephalic with cardiac disease, is by no means so frequent as these authors have, as he says, exaggeratingly announced; and he refers to the results of forty-two dissections of fatal apoplectic cases, in very few (three only) of which there were any abnormal appearances in the heart discovered. We will not waste time in replying to his reasonings and assertions, as by far the greater number of physicians are quite satisfied of the truth of that remark made by MM. Bertin and Bouillaud, in the Traité des Maladies du Cœur, &c. "that the majority of the patients in whom hypertrophy of the left ventricle is present, will be found to exhibit symptoms of cerebral congestion, and that many of them will fall victims to cerebral disease."

Within the last few years, the connexion of diseases of the heart with those of the brain has been examined by some physicians in reference to the pathology of insanity and other mental disorders. M. Falret of the Hospice de la Salpetriere at Paris, has communicated the results of his dissections in 92 cases of chronic mania. In 20 of these, there were "des lesions diverses du cœur, coincidant avec des alterations chroniques du cerveau, ou des membranes cerebrales." But, as yet, this field of enquiry has not been explored with sufficient care, to entitle us to do more, at present, than to recommend its cultivation to the attentive study of medical men, who devote themselves to the treatment of mental diseases.

M. Bricheteau has narrated twenty-two cases of apoplexy, in all of which hypertrophy of the left ventricle of the heart existed to a greater or less extent. We shall select only one of these. It is interesting for several reasons.

General Foy, distinguished as an able speaker in the French Parliament, had naturally a very strong and vigorous constitution; his feelings were exceedingly sensitive, and his temper vehement and irascible. From the period of his childhood, he had been subject to palpitations of the heart; these attacks had, of late, increased in frequency and severity, in consequence of the "travaux du cabinet," previous to taking a part in the "grandes luttes de la tribune." In 1817, the General, being at this time not quite forty years of age, was threatened with an apoplexy. This, as well as some subsequent attacks, were speedily relieved by copious venæsection and other depletorymeasures, prescribed by the late eminent phrenologist, Dr. Gall. He was afterwards under the professional care of M. Broussais, who had known him in Italy, and who, being aware that his patient had a tendency to heart-disease, regulated his treatment accordingly, with great benefit to his general health..

In 1823, the General experienced an attack of enteritis and nephrites. At this period, the hypertrophy of the heart seemed to have become much aggravated; and the excessive violence of the pulsations, below the left clavicle, suggested suspicions of the arch of the aorta being diseased. During the following eighteen months, the health of the patient did not experience any decided change: every now and then, indeed, he suffered from the palpitations, cough, and cerebral congestion; but it was not until the year 1825 that a marked aggravation of his disease took place. Soon after the close of the Parliamentary session of this year, General

Foy fell down quite insensible in the street. Fortunately however this attack was not of long duration. In the course of the autumn, the celebrated opposition orator travelled to the South; but, unfortunately, he was exposed to numerous causes of excitement, which invariably reproduced his sufferings. The cardiac disease gradually increased and proved fatal in the following November. The cerebral distress had of late considerably abated; this was, no doubt, attributable to the state of rest and inactivity, rendered imperative by the palpitations, and other symptoms of thoracic suffering.

Dissection. There was effusion to a considerable extent in the cavities of the pleura, and also within the pericardium. The heart was enormously enlarged in volume, and the walls of the left ventricle in particular were much increased in thickness. The head was not examined.

M. Bricheteau sums up his observations, by embodying them in the following six propositions:—

I. The proximity of the heart to the cerebrum (indicated by the comparitive length of the neck), and the energy with which the blood is propelled from the one organ to the other, exercise, in health as well as in disease, an influence on the character and "l'etendue" of the cerebral functions, and even of the instinctive and intellectual faculties.

Our author illustrates this position by reference to numerous physiological, as well as pathological phenomena, for most of which he is indebted to the popular writings of M. Richerand. We are reminded, for example, of the old and *well-established* remark, that a short neck and a large head indicate a fertile fancy and a vast intelligence. M. B. admits that numerons exceptious to this law may be adduced; but the truth of it, as a general position, he deems to be indisputable.

That the cerebral circulation is more than usually active during mental exertion, is indicated by the flushing of the countenance, the reddened state of the eyes, the throbbing of the temples, and so forth. The effects of coffee, wine, and spirits in exalting the energies, and in animating the fervour of the mind, at least in many constitutions, are universally known. Most persons can think best in the recumbent position; and some eccentric individuals assure us, that their fancies and memories are most vivid, when they lie with the head lower than the rest of the body.

So much for the arguments which are supposed to prove, that an unusually active state of the cerebral circulation is propitious to intellectual exertion. Let us now see whether the reverse of this condition, viz. that wherein the cerebral circulation is at all opposed and retarded, appears to be correspondingly unpropitious.

M. Bricheteau informs us, that persons who have very long necks, and in whom, consequently, the distance between the heart and the brain is considerable, are not usually endowed "d'une raison superieure, ni d'un esprit brillant;" but are usually of unimpassioned feelings, and of only moderate intellectual capacities.

The truth of this remark, he thinks, is confirmed by reference to the history of many of the lower animals. Those with long necks, such as the giraffe, the stag, the crane, the goose, and swan, have, "un instinct tres born." Fontaine was too accurate an observer of nature to be guilty of the mistake of ever making these animals hold "un language spirituel," in his fables; they are usually introduced by him as emblems of stupidity. On the contrary, the elephant, whose immense head is, from the shortness of the neck, brought near to the centre of the circulation, is endowed with a remarkably developed intelligence. The same may be said of the dog, the fox, the bear, beaver, and of many others. Bichat and Legallois have illustrated this curious subject in their writings.

The general inference which M. Bricheteau wishes to establish is, that whenever, from any cause congenital or acquired, the activity of the cerebral circulation is great, the functions of the

mind will be found to be correspondingly energetic.

II. Hypertrophy of the left ventricle may induce cerebral congestion, "coups de sang," and even attacks of genuine apoplexy, simply by the abnormal impulsion which is thereby communicated to the circulation within the head; this accident is by no means of rare occurrence.

Indeed, some of the most striking symptoms which indicate the presence of hypertrophy of the heart, are those of cephalic disturbance; the sense of the rushing of the blood to the head on any exertion, or sudden mental excitement, the throbbing, oppressive headaches, aggravated by the recumbent position, the vertigo, the dimness of vision, or the appearance of spots or specks before the eyes, the tinnitus aurium—these are the symptoms which formerly were attributed, on all occasions, to what was called the "apoplectic tendency or disposition of body," but which now are more justly acknowledged to indicate, at least very frequently, the existence of cardiac hypertrophy as their inducing cause. The importance of this pathological doctrine must be too obvious to require any illustration; for surely it must be always desirable to apply our remedies as near to the original seat of the mischief as possible.

III. An over-active impulsion of the blood on the brain may cause either a laceration of the cerebral pulp, or the dilatation and rupture of some of the small vessels, especially when these vessels have become aneurismatic, or otherwise altered in texture—or, lastly, an effusion of the serous part of the blood. Palsies, brain fevers, and various forms of nervous excitability, and of mental disturbance, are primarily owing to the excessive impetus of the current of the circulation on the brain, induced by hypertrophy of the heart.

It is the duty, therefore, of the physician, in all such cases never to omit the examination of the state of the heart and great vessels.

IV. When hypertrophy of the heart is accompanied with other forms of cardiac disease, especially with such as impede the free egress of the blood from the left cavities; for example, with contraction of the aortic orifice, and ossification of the semilunar valves, the symptoms of cephalic distress are generally much less conspicuous. The dyspnœa, tendency to syncope, and disposition to dropsical effusion, are more marked; but the signs of congestive fulness within the head are less so than when the hypertrophy is simple and uncomplicated. Even the former train of symptoms is, in some cases, very obscure and indistinct, although the cardiac disease is extensive and considerable, provided there be a correspondence between the hypertrophied state of the ventricle, and the amount of impediment to the free egress of the blood from its cavity, so that the effects of the former are counteracted, and as it were neutralized by the latter.

It is only in this way that we can rationally explain the history of those cases, in which the heart has been found on dissection seriously diseased, although the patient had not indicated, during life, any prominent symptoms of such a lesion. Dr. Hope records a very instructive example of this sort.

An old man, aged 80, died from a surgical complaint in St. George's Hospital. He had never "manifested symptoms of diseased heart sufficient to arrest his own attention, or that of his medical attendants;" and yet, on dissection, "the walls of the left ventricle were found to be at least an inch thick, without any change of its cavity, and the aortic and mitral orifices were respectively encircled by a ring of bone, as thick as a writing-quill."

V. A contracted state of the cavity of the left ventricle favours and accelerates the impulsion towards,

and congestion within, the head; and, on the other hand, dilatation of the ventricular cavity has a contrary effect, the heart, though enlarged, being less vigorously contractile under the latter circumstances.

VI. A knowledge of the influence of hypertrophy of the heart on the developement of apoplectic and other cerebral diseases, must lead to a mere rational and more successful mode of treatment, especially of the preventive or prophylactic treatment.

The occasional application of leeches over the region of the heart, instead of on the temples or any other part of the head, the internal use of digitalis, hydriodate of potass, and other diuretics, and the avoidance of whatever may increase or otherwise disturb the action of the heart, will be found to be the most simple and most decidedly efficacious remedies that can be employed. With respect to the proper place for local bleeding, in such cases as we have been alluding to in this paper, we predict that the practice of repeated cuppings from the nape of the neck will become less common than it has been hitherto. The distressing symptoms indicating congestion of the cerebral symptoms may be mitigated thereby for a time; but the organ, chiefly at fault, is only very partially and indirectly relieved. Even before the correct etiology of numerous cases of apoplexy was understood, the French physicians have been always in the habit of applying leeches to some part at a distance from the head, the anus for example; and probably this practice has been more judicious than that usually followed by English practioners of applying them on the temples, or behind the ears.—*Clinique Medicale, par M. Bricheteau.*

It will be useful to compare the observations of the most recent authors on diseases of the heart, and of the brain, with the opinions expressed in the preceding remarks of M. Bricheteau.

That most indefatigable physician, M. Bouillaud, has in his recent work, reviewed briefly in the present number of this Journal, devoted a few pages to illustrate the influence of hypertrophy of the left ventricle in predisposing to, and in inducing apoplexy and other cerebral disorders.

Out of 54 cases of hypertrophy of the heart (in some of these, the right ventricle only was hypertrophied, and the left one was not at all, or very inconsiderably so) there were eleven, in which cerebral disease, in six apoplexy and in five ramollissement of the substance of the brain, was discovered on dissection. The state of the cerebral arteries is indicated in seven only of these cases;—in four they were ossified and cretaceous at some point, or points; in two, they were perfectly sound; and in the remaining one, their walls were only "un peu blanches, et epaissies." In six of the eleven cases, the hypertrophy of the left ventricle was excentric, or accompanied with dilatation, (the active aneurism of Corvisart); in three, it was concentric, or accompanied with contraction of its cavity; and in two, the hypertrophy was simple, the cavity remaining of its normal dimensions. Allusion is made to the case published many years ago by Legallois in the Bulletin de la Faculté, and entitled, "Observation sur une maladie du cœur par hypersarcose, ou par exces de la substance musculaire de ce viscere, cause presumée d'une apoplexie foudroyante." The case occurred in a female, 25 years of age, who had laboured under symptoms of heart disease from her infancy, and who had been subject to severe head-aches, and occasional bleedings from the nose. She died of a sudden apoplectic seizure. On dissection, the walls of the aortic ventricle were found extraordinarily thickened and indurated, but its cavity was no larger than in health. In the right ventricle of the brain, there were at least three ounces of coagulated blood; the septum lucidum was partially torn, and some of the blood had apparently escaped through the rupture into the left ventricle.

In reference to the adverse sentiments of M. Rochoux, (who maintains that cerebral hæmorrhage is almost invariably preceded by, and dependant on, a peculiar softening of a certain portion

of the substance of the brain, *ramollisement hemorrhagipare*, and is very rarely associated with cardiac disease,) M. Bouillaud very judiciously says, that it is only by accurate statistical tables of disease, that we can hope to determine the point at issue.

He admits that in numerous cases of apoplexy, complicated with heart-disease, especially with hypertrophy of the left ventricle, the cerebral arteries are at the same time cretaceous and fragile; and also that cerebral hæmorrhage is not unfrequently discovered in persons who have not been affected with any disease of the heart; but at the same time he contends, that the morbid alteration of the cerebral arteries is by no means of constant and uniform occurrence, and that the coexistence of an hypertrophied state of the left ventricle with cerebral hæmorrhage is sufficiently frequent to warrant us in regarding these diseases as related to each other, in the light of cause and effect.

Dr. Copland announces similar opinions in his Medical Dictionary: "The frequency," says he, "of apoplexy, or palsy in the advanced progress of cardiac disease, especially hypertrophy of the left ventricle, have led me to believe that more than mere coincidence actually exists;" and with great discriminitation he adds, "It is however by no means improbable, that the disposition to organic change throughout the whole vascular system, sometimes associated with disease of the heart, may so far exist in the delicate vessels of the brain, as to favour the occurrence of hæmorrhage from them, when the action or impulse of the heart is increased by disease, or the influence of passion, or emotion; or when the return of blood from the head is impeded by congestion, or interrupted circulation through the lungs, or right side of the heart."

We cannot but express our surprise at the almost total omission of any reference to the connexion between cerebral diseases and those of the heart, in the article on apoplexy communicated by Dr. Clutterbuck to the Cyclopædia of Practical Medicine, a work which, although containing some valuable medical essays, is very imperfect and incomplete. The only remark made on this most *practical* subject is, where he enumerates among the causes which operate by impeding the return of blood from the brain, "diseases of the heart or lungs, impeding the transmission of the blood through the pulmonary vessels."

Dr. Hope read last year before the College of Physicians a paper on the connexion of apoplexy and palsy with organic disease of the heart. Out of 39 fatal cases of apoplexy, disease of the heart was found co-existent in 28. According to his data, the author concludes that the periods of life at which fatal apoplexy is most prevalent, are precisely those in which disease of the heart (either hypertrophy of the muscular substance or ossification of the valves and vessels) is of most frequent occurrence—namely, between forty and fifty, and between seventy and eighty. The practical inferences which Dr. Hope derives from his enquiries are simple and judicious. He particularly insists upon the necessity of avoiding all severe bodily exercise, and all exciting emotions of the mind. The paramount object in this, as in every other disease, is a correct diagnosis. The appropriate treatment follows almost of course.*

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* The two most recent French and English authors on diseases of the heart, it appears to us, are very unwilling to do justice to each other. They have both been playing too much of a see-sawing game of borrowing and self-appropriation, without due acknowledgment of each other's merits and discoveries. In the article hypertrophy of the heart, in the Cyclopædia of Practical Medicine, we observe that more than one passage has been literally translated from an old article in the Archives Générales, and from Bertin's treatise, no reference however being made to either of these works; and on the other hand, Bouillaud, in his "Traité des Maladies du Cœur," published but last year, very gravely tells us that, at the time he performed some experiments in

Many most interesting cases illustrative of the connexion, or at least of the co-existence of the cardiac and cephalic disease have been published in the pages of this Journal. We may refer in particular to one which occurred in the practice of Dr. Seymour at St. George's Hospital, narrated in the 11th vol. The patient died appoplectic. A large sanguineous clot was found in the right ventricle of the brain; the basilar arteries exhibited spots of ossification; the walls of the left ventricle of the heart were greatly thickened; and the semilunar valves of the aorta and also the coronary arteries were rigid and hard at several points.

In the same volume, the Senior Editor of this Journal has narrated at great length a most instructive case of hypertrophy, &c. of the heart, where, although the cardiac disease was probably the primary evil, and the cause of the cerebral affection, it had been almost totally overlooked.

On the Influence of Lesions of the Right Ventricle of the Heart on the Pulmonary Circulation.

We have shewn in the preceding article that many of the lesions of the brain are directly owing to a previous disturbance of the functions of the heart; this disturbance consisting in an over-activity and strength of the left ventricle, induced by hypertrophy, or, as some prefer to call it, hypersarcosis of its muscular parietes. We shall now briefly consider the reciprocal influences of diseases of the right ventricle on the state of the lungs, and of diseases of the lungs on the state of the right cavities of the heart. Some physicians of the last century had alluded to these pathological relations; but they had done so only in a very cursory manner; and it was not until Laennec in the first instance, and subsequently Bertin, Bouillaud and others, following the path of their great leader had analysed and arranged the two important departments of pathology, which treat of the diseases of heart and of the lungs, that the intimate connexion of these vital organs in their morbid states, and the reciprocal influences of the one in inducing disorders of the other, was distinctly stated and satisfactorily unfolded. True it is, that since the days of Hypocrates, it has been well known that diseases of the heart almost invariably induce serous effusions into the texture of the lungs, and into the cavities of the pleuræ; and, on the other hand, that one of the most constant of the symptoms of hydrothorax is violent and irregular palpitation of the heart; but physicians had not, until within the last five years, been in the habit of watching the steps or gradations, by which the disease of the one organ operate in inducing those of the other: the general facts were known, but known only at a period of the disease, at which the knowledge could be comparatively of little use in suggesting appropriate remedies for their relief. It is only during the earlier stages of pulmonary and cardiac diseases that we can reasonably hope to cure or mitigate them; and great and most gratifying credit the scientific physician may acquire by his skilful treatment. For this purpose he must endeavor to ascertain which is the real "fons et origo mali," and which is the secondary or the superinduced disease. The extreme frequency of heart disease, (a frequency which, it almost seems, has greatly increased of late years,) will suggest the propriety of treatment directed to the region of the heart, in many cases of apparently idiopathic pulmonary disease; and the simple remedy of occasionally applying three or four leeches to this part will often produce the most pleasing effects.

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to disprove the accuracy of Majendie's theory on the sounds of the heart, he was not at all aware that Dr. Hope had anticipated him in a simliar enquiry, although the English work had been published at least two years previously, and was perfectly well known on the Continent.

All this is not worthy of the generosity of science.

M. Begin, in a very valuable paper on asthma, in the Journ. Compl. des Sciences Medicales, has very forcibly stated the mutual relation between the lungs and heart in this disease. "In order that the lungs may perform their functions healthily, they must afford a free and easy passage to the blood circulated through them. Whenever the due expansion of the lungs is from any cause impeded, the blood accumulated in the right cavities of the heart must overload them, and their muscular parietes being excited to unusual efforts to expel their contents will, in course of time, become the seat of organic changes. The obstructed state of the lungs, is the first link in the chain, and is in truth the morbific cause of the cardaic lesions. It is by inducing primarily a congested state of the pulmonary circulation, that all over violent or protracted exertions of the voice,as in practicing on wind-instruments, and all unusually severe muscular efforts, are so apt to lay the foundation of heart disease.

When a portion of one or of both lungs is irremediably hepatised, or when a pleuritic effusion exists to such an amount as to compress the lungs, the pulmonary circulation must be more or less embarrassed; and we cannot, therefore, be surprized, that the heart may eventually suffer some organic change. The repeated recurrence of paroxysms of asthma must necessarily have a similar effect."

If we admit that an obstruction to the free transmission of the blood through the lungs causes a regurgitation back on the right cavities of the heart, and is thus apt to induce a dilatation of these cavities, it is no less probable than the action of the right ventricle, when it is primarily hypertrophied, may induce pulmonary congestions, hæmoptysis, and suffocation.

Many cases in truth of these forms of disease are explicable in the way we have now noticed. The heart is primarily the offending organ, and the practice therefore of a judicious physician ought to be directed in an especial manner, to its relief. The course of the pulmonary artery is so short that the impulsion of the current from the right ventricle is communicated directly, and with no abatement of its energy, on the structure of the lungs. If, therefore, from any cause, as from hereditary predisposition, or from any antecedent disease the textures of the lungs are unusually delicate and lacerable, we may easily understand how hypertrophy of the right ventricle will be apt to induce hæmopstysis, or pulmonary apoplexy. The influence of the right ventricle, on the lungs must be greater than that of the left vertricle on the brain. In the one case, there is no impediment or obstruction to the impetus of the blood; whlle in the other it must be more or less abated by the long and tortuous course of the carotid and vertebral arteries, and by the minute subdivision of these vessels, before they are distributed on the encephalon.

Mr. Brichetau has made several experiments on the dead body, which prove how liable the minute pulmonary arteries must be to rupture from any unusual impetus of the circulation. He has often found that by throwing in an injection into the pulmonary artery with very moderate force, the vessels have given way at one or more points of the lungs, and the parenchyma has been infiltrated with the injected matter.

These considerations lead us to appreciate with accuracy the rationale of the symptoms which are induced by hypertrophy of the right ventricle of the heart.

The palpitations are always much aggravated by whatever distresses the breathing, and impedes the free circulation of the blood through the pulmonary vessels; the pulse at the wrist is not necessarily much affected, at least not in the same degree, as we find it to be usually in hypertrophy of the left ventricle; the face and lips have a purplish or livid hue; the jugular veins are full, prominent, and sometimes pulsatory: the respiration is short and much harassed on any exertion or agitation; the blood is often imperfectly oxygenated, and when this is the case, the functions of the brain are sluggish, and the patient towards the close of the disease becomes lethargic, or even

quite comatose. Dropsical effusions are of more frequent occurrence from hypertrophy of the right, than of the left ventricle.

M. Bricheteau alludes particularly to the occurrence of repeated hæmoptysis (when this is not symptomatic of tubercles), as one of the least fallible signs of hypertrophy of the right ventricle. When spitting of blood occurs for the first time in persons of middle or of advanced years, and especially if it is accompanied with palpitations, and other symptoms of cardiac distress we have strong reason to suspect that the right ventricle is hypertrophied, and that the effusion of blood is the direct consequence of this morbid state.

M. B. has published reports of six cases, which illustrate this connexion between hypertrophy of the right ventricle and some sorts of hæmoptysis. Two of the cases were fatal, and dissection confirmed the accuracy of the diagnosis. The ages of the patients varied from 26 to 58; no mention is made that any of them had a phthisical tendency. We shall present to our readers abbreviated reports of two of the cases, selecting a fatal and a fortunate one.

Case 1. A groom, 48 years of age, plethoric and robust, became subject six years ago, after a severe attack of pneumonia, to frequent palpitations of the heart. His breathing became gradually more and more oppressed, especially on any exertion, and, above all, whenever he attempted to mount up stairs. From time to time he expectorated a quantity of blood. Œdema of the limbs had of late supervened.

When admitted into the Hospital Necker, of which M. Bricheteau is one of the physicians, the symptoms of cardiac and pulmonary disease were strongly marked. The face was purplish and swollen; the jugular veins were distended, and pulsated regularly like an artery; the breathing was short and quick; the heart throbbed violently, especially on its right half; and a frequent cough, accompanied with copious expectoration, harassed the patient; the pulse at the wrist was rapid, hard, and irregular. At almost every point of the chest, a strong respiratory murmur, blended with a loud mucous râle, was audible. The patient was obliged to keep constantly the sitting position. In a few days he died, quite asphyxiated.

Dissection. There were two ounces of serum within the pericardium; the left cavities of the heart were normal—the right cavities were much dilated and thickened. The left lung was hebaptized to a great extent, and here and there exhibited spots of half-coagulated blood.

Case 2. A woman, 40 years of age, of a healthy and sanguineous temperament was seized, after some laborious occupation, with a copious hæmoptysis. This attack was speedily checked; but, in the course of a few days, the spitting of blood returned. It continued for two days. No abnormal respiratory sound could be detected by auscultation; but the pulsations of the heart were extended over a larger space than is usual; they were irregular and intermittent, and were strongest over the right side. The jugular veins near the sternum exhibited regular pulsatory movements. The pulse at the wrist but little affected in any respect. Venæsection, and the use of cooling demulcents arrested the hæmorrhage; but there were several subsequent relapses, in consequence of the patient exerting herself. At no time did auscultation reveal any abnormal respiratory sounds.

The other four cases reported by M. Bricheteau agree with the preceding in the general features, of the hæmoptysis being attended with symptoms, more or less distinctly marked, of disease of the right side of the heart, and of its being quite independent of any tubercular ulceration. The importance of discriminating these two forms of hæmoptysis, the one from the other, must be obvious to every one. The age and constitution of the patient, the presence or absence of tubercular disease on the one hand, and of cardiac disease on the other, ought to be accurately investigated; and, from the improved means of diagnosis now adopted, we may ge-

nerally determine the genuine nature of the case.—*Clinque Médicale, par M. Brichetau.*

M. Bouillaud, in his excellent treatise on the Diseases of the Heart, states that he has only met with three cases of pulmonary apoplexy or hæmorrhage in patients affected with hypertrophy of the right ventricle of the heart.

He admits that this number is far too limited to warrant any general conclusions; but he assures us that he is quite satisfied that these two morbid states are connected with each other, in the relation of cause and effect. That this idea is one not of recent adoption on his part, he refers to an article published by him so far back as the year 1824, in the Archives Générales, where it is stated:—

"When the walls of the right ventricle are increased in thickness and strength, they must communicate to the pulmonary circulation, an activity and force proportionate to their hppertrophy, and sufficient sometimes to overcome the resistance of the vessels; hence the origin of pulmonary hæmorrhages, of apoplexies (coups de sang), which are induced in a manner quite similar to that in which cerebral apoplexies are so frequently caused by hypertrophy of the left ventricle."

M. Bouillaud admits. that pulmonary apoplexy from hypertrophy of the right ventricle, is by no means of such frequent occurrence as cerebral apoplexy from hypertrophy of the left one. There are two good reasons for this; in the first place, hypertrophy of the right ventricle is not nearly so common as hypertrophy of the left one; and, secondly, the pulmonary arteries are very rarely affected with that calcareous degeneration, which is so frequently observed affecting the branches of the internal carotid.

M. Chomel, ih the Dictionnaire de Médécine, art. Hemoptysie, alludes to the occasional dependence of the disease on hypertrophy of the right ventricle; but he adds that this is of extremely rare occurrence, aud that by far the most frequent cause of pulmonary hæmorrhage is tubercular ulceration.

"True if is (says he) that it may be sometimes induced by violent efforts or strainings, from congestion of the pulmonary veins, occasioned by thoracic or even by abdominal disease; and now and then it appears to be a salutary effort of Nature to relieve herself, as we witness in some cases of amenorrhœa; but for one case arising in any of these ways, there are at least a dozen or twenty which can be traced to phthisical degeneration of the pulmonary texture."

It is, however, to be remembered that M. Chomel has, in the article alluded to, evidently confined his remarks to that form of hæmoptysis which is so generally associated with tubercular disease; this form, or the phthisical hæmoptysis, is generally (but certainly not always) comparatively slow and gradual, whereas that connected with disease of the heart is copious and sudden, and is well denoted by the phrase "coup de sang," which the French authors often use.

In the valuable article on pulmonary apoplexy, communicated by Dr. Townshend to the Cyclopædia of Practical Medicine, we fine the best summary of authentic data, illustrative of the con nexion between this malady and disease of the heart. He says:—"Of twenty cases of pulmonary apoplexy that we have examined after death, fifteen, or rather more than two thirds of the whole, occurred in individuals labouring under heart disease; in two instances only was the pulmonary apoplexy connected with tubercules in the lungs; in one, the disease was caused by external injury: and in four cases we could not trace the hæmorrhage to any pre-existing disease, either of the heart or lungs."

The late Mr. Burns, of Glasgow, has pointed out the connection of pulmonary hæmorrhage with some diseases of the heart in very forcible language:—"The pulmonic vessels, by the congestion and continued vis á tergo, are ruptured—blood forced into the air-cells, or, if urged still further, all the cellular structure of the lungs is crammed with blood; these organs cut like liver, and sink when put into water." No description of what in the present day is

called pulmonary apoplexy, could be better.

The lesion of the heart, with which this disease is almost always connected, is an hypertrophied state of the right ventricle. That the simple contraction of the left auriculo-ventricular orifice, the right ventricle being normal, may by causing an obstruction to the free return of blood through the pulmonary veins, occasion a rupture of the pulmonary capillaries, is admitted by all authors who have of late written on the subject: but we are assured by Bertin and others, that pulmonary hæmorrhage from this cause is not only much less common, but also always more gradual in its occurrence, and more passive in its character, than that which is produced by hypertrophy of the right ventricle. The following case, related by Dr. Law in the Cyclopædia, affords a good example of the co-existence of both lesions.

"A young lady had, for three years, laboured under most distressing palpitation, greatly increased by the slightest exertion or motion; auscultation left no doubt that the lesion consisted in a narrowing of the left auriculo-ventricular orifice. She had repeated hæmoptysis, which became more frequent and profuse as she approached death.

On dissection, both lungs were found gorged with blood; even the minutest capillaries under the pleura were injected, and there were numerous ecchymosed patches in the subjacent cellular tissue. The right ventricle of the heart was hypertrophied and dilated—the left ventricle was smaller than natural—the left auricle was dilated and thickened, and the left auriculo-ventricular orifice was so contracted, that it would scarcely admit the introduction of a crow-quill! The pulmonary artery was larger than usual, and the aorta was very considerably smaller." The remark which Dr. Law appends to this report, viz. "that this (the narrowing of the left auriculo-ventricular orifice) is the lesion which we shall find to be most frequently the cause of pulmonary apoplexy," is at variance with the testimony of Bertin, Bouillaud, Townshend, and others, and, indeed, with Dr. Law himself, who rather inconsistently observes, in a subsequent part of his own paper—"pulmonary apoplexy is found to occur most commonly from hypertrophy of the right ventricle."

Such are some of the most authentic data which illustrate the position which we proposed to establish, that one form of hæmoptysis is very generally connected with, and in truth dependent upon, hypertrophy of the right ventricle.

MEMOIRS OF THE FRENCH ROYAL ACADEMY OF MEDICINE.

The last published fasciculus of these Memoirs contains very few papers of general interest. The learned Society must surely be at a great loss for valuable communications, when more than three-fourths of a fasciculus are occupied with such articles as an "Eloge de Chaussier," wire-drawn to the portentous extent of forty quarto pages—a "Notice sur la Peste de Moscow," which prevailed upwards of sixty years ago; and an account of the changes effected in the treatment of the insane at the Bicêtre by the late M. Pinel, so far back as the year 1792, and copied from some manuscript papers, which were probably never intended for publication. Besides these uninteresting papers there is another, on that variety of inguinal hernia, in which the displaced gut does not protrude through the external inguinal aperture, being confined in the passage between this and the internal aperture, and which has been denominated the incomplete inguinal, the intra-inguinal, or the inguino-interstitial hernia. There is no new matter in this essay from the pen of Dr. Goyraud, and it need not, therefore, occupy our attention. The remaining two papers are somewhat more deserving of notice, although, in our opinion, far from being worthy of the Transactions of the Royal Academy of Paris. Their sum and substance are contained in the following analyses.

I. ON THE INTRODUCTION OF AIR INTO THE CAVITIES OF BLOODVESSELS:—ON THE TORSION OF ARTERIES AS A MEANS OF ARRESTING HÆMORRHAGE:—SURGICAL REPORT OF M. CLOT BEY.

M. Amussat has had lately several opportunities of witnessing the occurrence of this fatal accident—the introduction of air into the cavities of bloodvessels. even when the size of the wound was very small. He urges, therefore, the necessity of extreme caution, whenever the jugular, or other veins adjacent to the heart are opened or divided, and recommends that compression below the wound should be steadily kept up, as long as the blood continues to flow. The numerous experiments which he has performed on the lower animals, for the purpose of elucidating this, and various other points connected with traumatic hæmorrhages, have proved to him, that the most effectual remedy consists in immediately closing the opening of the vein (through which the air has rushed in with a peculiar whizzing or bubbling sound), and in compressing rapidly, and par "saccade," the thorax and abdomen, the finger being placed on the wound during each interval of compression. By these means, M. Amussat has succeeded in saving many animals, in which air had been introduced into the heart from a wounded vein, either accidentally or by design; whereas those animals (he says) which were left unassisted invariably perished. In addition to the means now mentioned, we may try to suck out the absorbed air by means of a tube, either with the mouth, or, as Majendie proposes, with a syringe. Immediately afterwards, the wounded vein should be secured by ligature or by torsion.

There are two principal methods employed in the present day to arrest alarming hæmorrhages—the ligature and torsion. Hitherto, the latter method has not met with all the encouragement which its simplicity and success deserve. It has, however, been making a steady, although it may be a slow progress, and the reader will find by some of the following details that several of the best French surgeons are in the habit of adopting it.

The complete isolation of an artery is not an indispensable preliminary to the application of a ligature; but it is so to the employment of torsion. A very simple manœuvre, however, with two forceps, one held in either hand, will easily attain this object. There is more difficulty in exposing properly the arteries of the scalp, than those of any other part, in consequence of their firm connexion with the close and indurated cellular tissue there. But this difficulty is quite counterbalanced, by the less risk of erysipelatous inflammation after torsion, than after the application of a ligature to these vessels.

As soon as the vessel is properly isolated, or detached from its adhesions, the operation of torsion is half completed: whereas the use of a ligature very generally requires the aid of an assistant. In the present state of the science, torsion is, we must confess, a more delicate and difficult operation than the ligature; but a few trials of it on living animals will speedily enable any surgeon to adopt it with perfect facility. From the time when I first devised torsion, says M. Amussat, I have not applied a single ligature; I have employed it in all, even in the most important operations of surgery, with the utmost facility and with perfect success." The advantages of torsion over the use of the ligature are the following:

The operator is independent of any assistance; the artery is "sufficient for itself," and no extraneous object is introduced into the wound; and, lastly, the danger of consecutive hæmorrhage is, in M. Amussat's opinion, less. He quotes from the French Lancet of Jan. 1834, a case reported by Dr. Ferrus, surgeon of the Military Hospitul at Calvi. in Corsica, where the patient might have been lost in consequence of the unskilfulness of the assistant, had Dr. F. not immediately had recourse to the torsion of the bleeding vessels.

M. Clot-Bey has employed torsion after several operations. In a surgical report of his hospital at Abou Zabel in Egypt, published recently in the Jour-

nal Hebdomadaire, we find a notice of an amputation of the arm, where he had recourse to torsion with perfect success. After laying hold of the bleeding vessels with the forceps, he twisted them round four or five times, without any previous "refoulement" of their inner coats or membranes. The success which attends all the operations of the Bey is indeed quite marvellous. With becoming modesty he attributes it to the favourable constitutions of his patients, and to the salubrity of the climate of Egypt. A case of disease of the lower jaw is mentioned, in which one half of the bone was extirpated; the cure was perfect by the 12th day after the operation. Caries of the ribs and sternum seems to be of more frequent occurrence in Egypt than with us. The following two cases may deserve notice. A young Arab soldier had for some time felt a pain in a limited spot below the left clavicle. He attributed it to a blow he had received from one of his comrades. A swelling had formed at the part, and had become gradually larger, till it was of the size of an egg at the period of his admission into the hospital. An incision being made into it, a quantity of pus was discharged, and the bone was found to be exposed and carious for the space of an inch. M. Clot determined to excise the diseased portion of rib. The intercostal muscles having been divided, and the pleura detached by means of a blunt spatula, the cartilaginous end of the rib was cut through by means of a very strong scalpel and elevated; a chain saw was then passed under the rib, and a portion of it, an inch and a half long, was separated. The intercostal artery was tied, and some charpie placed in the wound. The cure was speedily complete.

The second case also occurred in an Arab soldier. A tumor had very gradually formed on the posterior and lower part of the left side of the thorax. A little higher up than the tumor itself, there was a small aperture. A probe being introduced, the rib was found to be carious. On laying open the tumor, upwards of half a pint of unhealthy pus was discharged. The intercostal muscles were then cautiously divided, and the pleura separated; a chain-saw was passed behind the diseased ribs, and portions of the seventh and eighth ribs, the one two and the other three inches in length, were sawed off. The lips of the wound were retained together by means of a twisted suture. For the first four days after the operation, there was much febrile irritation, but this gradually subsided, and the patient eventually recovered his health entirely.

M. Clot alludes to two cases of elephantiasis of the labia pudendi in young Arab females. In the first case, the enlargement being not very considerable, the treatment was limited to the application of leeches, and of hydriodated ointment; but in the second, the right labium had become so enormously enlarged, that the patient willingly submitted to its excision. The operation was quickly done, and with perfect success.

In neither case could M. Clot ascertain a probable cause of this curious malady.

To return from this digression on M. Clot's surgical clinic to the subject of the torsion of arteries, the following memoranda of cases, in which M. Blandin employed it at the Hospital Beaujon, and published in the Journal Hebdomadaire, may be deemed instructive.

After the excision of a scirrhous mamma, the bleeding vessels were successively seized with the forceps and twisted; some of them could not be sufficiently isolated, and others tore or escaped from the hold of the forceps several times, before the hæmorrhage was completely arrested. On the second day after the operation, the wound was dressed: the lips were tender and swollen, and an erysipelatous redness was diffused all around; several small clots of blood escaped from the wound. On the following day the poor woman died very unexpectedly. On dissection, the lips of the wound were found partially united, and lifted up "en totalité" by a quantity of coagulated fetid blood underneath. The subcutaneous cellular

tissue was infiltrated with purulent matter.

(This case is certainly not very favorable to torsion: perhaps it was not cleverly executed.—*Rev.*)

In the second case, the torsion succeeded better.

A young girl had her leg amptuated. "The anterior and posterior tibial, and the peroneal arteries where successively seized with the torsion-forceps, drawn out from their surrounding attachments, laid hold of and squeezed between the branches of a second forceps, so that the internal and middle tunics might be lacerated, then drawn between the branches of this forceps, so that these membranes might be folded or rolled back, 'refoulé,' and lastly, the cellular or outer membrane only was twisted, the vessel being kept firm all the while by means of the second forceps."

(This description is certainly not very perspicuous.)

The hæmorrhage was quite arrested from the three vessels, and their pulsating ends were distinctly seen on the surface of the wound. Cicatrization appears to have proceeded very slowly in this case, as the wound was not entirely healed for nearly three months. At no time, however, was there any threatening of hæmorrhage.

In an amputation of the thigh of a young boy, M. Blandin again had recourse to torsion. "The femorial artery was seized, isolated, its internal and middle membranes ruptured, and 'refoulées' between the two branches of the second forceps, and the outer or cellular membrane twisted, while the vessel was kept steady by means of the second forceps. The deep femorial artery was treated in the same manner." Several of the smaller vessels were seized and twisted, but without inducing any laceration or "refoulement" of their inner coats, being simply held between the thumb and fore-finger of the left hand, while the torsion was effected with the forceps in the right hand. The healing of the wound was very slow, but ultimately complete. No hæmorrhage had occurred at any time.

The fourth was a case of excision of the mamma.

Several arteries were successively twisted, in some with, and in others without previous rupture and "refoulement" of the inner coats. The hæmorrhage from all was effectually arrested: the ends of the vessels were seen pulsating at different points of the wound.

The fifth was a case of extirpation of the testicle. The sixth was one of amputation of the thigh in an adult. The femoral and other arteries had been secured by torsion. The patient having died ten days after the operation, these vessels were carefully examined. The femoral artery, where the profunda was given off immediately below the femoral arch, contained a filiform coagulum, which extended to its divided end on the face of the stump, and became much larger near this point, occupying here the entire tube of the vessel. The coagulum adhered firmly to the circular groove, which had been made by the second forceps compressing tightly the artery. The inner and middle coats had been divided at this point, and rolled back, "refoulées," for the extent of a line or two. The twisted end of the outer coat was softened, suppurating, incompletely detached, but separated by gentle traction. The tube of the artery was contracted, and its inner surface exhibited numerous transverse folds.

The next case was one also of amputation of the thigh. The patient died on the ninth day from hectic irritation, but without any hæmorrhage. The femoral artery, as high up as the giving off of the profunda, was contracted, and exhibited numerous transverse folds.

An inch above its divided extremity there was a small fibrinous clot, of a pale red colour, adhering firmly to one part of the tube, but not filling it up entirely. Below the coagulum, the artery was quite empty. The gaping cellular tunic was in a state of suppuration, and was not to be easily distinguished from the rest of the stump. The internal coats were "refoulées" to a small extent and suppurating. Four

other minor cases are related, in all of which torsion was successfully employed to arrest arterial hæmorrhage. The catalogue, therefore, of cases is sufficiently large to demonstrate the safety and efficacy of the operation. In one case only, the first, there appeared to be a want of success; and this was attributable perhaps to the circumstance of the operator being not familiar at the time with the best mode of performing the torsion. Besides, it is not at all improbable that the hæmorrhage may have proceeded from some of the small vessels, which began to ooze out blood, after the wound had been closed. The success of the practice in all the other cases was complete. We cannot, therefore, place much credit on the reports of those surgeons who have announced that torsion has frequently failed in their practice. It is quite possible that the failure has been owing rather to an error of the operator, than to any defect of the operation. The torsion of the larger arteries requires a rather more complex manipulation than when the smaller ones only are to be secured, The use of the two forceps, the seizure and isolation of the vessel with the one, the division and "refoulement" of the inner coats with the other, and, lastly, the torsion of the cellular coat only with the former, the vessel being all the while kept steady with the latter forceps—these different steps must be attended to in the torsion of the larger arteries. The smaller ones are more easily managed: we have only to seize the bleeding end with the forceps, draw it gently out, and isolate it from its connexions, lay hold of it with the thumb and fore-finger of the left hand as high up as we can, and then twist it with the forceps in the right, without any preliminary division and "refoulement" of its inner coats.

The admirable researches of M. Amussat have shown, that the consequence of the "refoulement" of the inner coats of the artery is the exudation of plastic lymph, which agglutinates the sides to each other, and to the extremity of the inclosed coagulum.

In one of the cases which we have related from M. Blandin's practice, we have seen that the fibrinous coagulum adhered firmly to the extremlty of the valvula formed by the "refoulement" of the inner membranes of the vessel.

II. On the Preservation of timber from the Dry Rot by the Corrosive Sublimate of Mercury.

The Minister for the Marine and Colonies of France applied a short time ago to the Royal Academy for their opinion respecting the efficacy of a solution of corrosive sublimate as a preservative of the timber, sails, and cordage ofs hips. A commission of five members was appointed to make the requisite inquiries, and to draw up a report of their proceedings. The report commences with a rapid survey of the various means which had been proposed and tried previous to the introduction of the corrosive sublimate. Among the numerous preservatives at different times recommended, we may enumerate various resins, animal, vegetable, and mineral oils, the muriate of soda, the nitrate of potass, quick-lime, baryta, the species of pyrites (!), which the English call "mundic," and which is partly composed of arsenic. This latter substance mixed with water was used to wash the timbers of the Queen Charlotte with; but the shipwrights employed in the work suffered severely from swellings of the glands, and two of them died in consequence. A practice which has been for a great length of time in use in many arsenals is to keep all their store or reserve timber floating in or sunk under sea-water: but this method too has its disadvantages; for the wood thereby loses its proper density and strength, and it cannot, but with difficulty, be afterwards ever thoroughly dried. The saline matter, with which it has become impregnated, is apt to dissolve whenever the atmosphere is damp; and thus a vessel built of such timber is inevitably rendered uncomfortable and even unhealthy. The oxidation too of the iron and copper work is greatly accelerated by the presence of the muriate of soda. Lastly, it may be stated that the wood thus seasoned is by no means exempt from

the very evil which the remedy has been used to counteract. In order that timber may remain sound for a length of time, it is necessary that it be thoroughly dried. The drying of timber is usually effected by exposing it for a length of time (under shelter if possible) to the air. But this being a tedious process, (three years may be stated as the average time required,) recourse has been had to artificial warmth. A too high degree of heat weakens the ligneous fibre, and by dissipating all its humidity—a certain degree of which is necessary to its suppleness and strength—renders it friable and disposed to split. It has been recommended to dry and to preserve timber in beds of dried sand; but this plan is evidently inapplicable for large quantities of wood.

The process of that disorganization of wood, so well known by the name of the dry-rot, has been repeatedly examined. The following appear to be the progressive steps of this destructive change. The wood being more or less humid, whether from retaining part of its natural humidity, or, in consequence of the long immersion to which it was during its seasoning subjected, commences to undergo a sort of heating or fermentation, the result of some internal molecular movement, analogous to that which takes place during the decomposition of animal matters. By this fermentation and dissolution of the juices of the wood, the reticular ligneous tissue gradually softens and cracks; and in the cracks or fissures thus formed various cryptogamic plants begin to vegetate. The vegetations, which are in truth not the primary causes of the mischief, but are rather the result of the preceding changes, multiply and increase in every direction, breaking up and disorganizing the ligneous tissue. This development of regular organized vegetable productions succeeding to a previous decay of the wood, may be aptly compared to the generation of worms in putrefying animal matter.

Such appears to be the process of what has been called the dry-rot, or caries of wood; a morbid action which commences with a sort of intestine fermentation or decomposition of the ligneous fibre, and terminates by the production of various cryptogamic plants in its tissue. It had been long well known that the corrosive sublimate of mercury has a powerful effect in arresting the purtrid fermentation and decomposition of animal matters. It had been used in preserving antimonial preparations, objects of natural history, in embalming, &c. The most putresent structures, such as the nervous pulp, acquires a firmness from the sublimate, which enables it to resist decay. Botanists, too, had frequently employed it in the preservation of their herbaria. So far back as the year 1815, Dr. Bailli of Toulouse had suggested the expedient of immersing wood in a solution of corrosive sublimate to preserve it from speedy decay. But we do not propose to dispute the claims of the Englishman, Mr. Kyan, who has recently brought the proposal more formally and more minutely under the attention of his own as well as of our Government.

The solution which he recommends is made by dissolving about a pound of the salt in about eight or ten gallons of water. The requisite period for maceration must vary, according to thickness and hardness of the timber, from a week to three or more. The sails and cordage do not require more than a couple of days.

Several experiments were made at Woolwich to ascertain the preservative powers of Mr. Kyan's solution. Pieces of wood which had been subjected to it, and others which had not, were left for a twelvemonth in a ditch. A quantity of decayed and rotting timber had been thrown in along with the sound, and the whole had been kept rather warm, for the purpose of encouraging the fermentation.

When removed at the end of the twelvemonth, the *prepared* wood was found to be perfectly sound throughout, while the other pieces were all more or less rotten.

The French chemist, M. Henry, has made numerous experiments to ascertain the mode, in which the sublimate probably operates, as a preservative of timber. He has shown that the salt so employed is in a great measure speedily

converted into the state of protochloride, and that, in passing to this state, it forms a combination with the albuminous juices of the wood. There is thus formed a new organic compound, fixed and insoluble, and the vegetable juices are no longer liable to be affected by moisture, or susceptible of that fermentation, which we regard to be the primary and essential stage of the dry rot.

In reference to the question whether the wood, &c. prepared by M. Kyan's method is likely to prove hurtful to the shipwrights, or to the crew of a ship which has been built of it, we may allude to some observations of Mr. Faraday. This distinguished chemist informs us that many years ago, his great predecessor, Sir H. Davy, was consulted by the late Lord Spencer, as to the propriety of using the corrosive sublimate to preserve his valuable library from the attack of insects. Both Sir H. and Mr. Faraday were rather unfriendly to its use, on the ground that it might become volatilised and thus impregnate the atmosphere of the rooms with poisonous particles. But Mr. F. has subsequently changed his opinion, and he is now convinced that his fears were unnecessary. As a matter of course there is infinitely less risk of any such injurious consequences from wood which has been merely saturated in a solution of the salt, than from using the powder of the salt itself to sprinkle on books, or other objects. But we have already stated that the prepared wood retains very little of the undecomposed poisonous salt, the greater part of it being speedily converted into the innocent proto-chloride. The efflorescence which may be often observed on wood which has been immersed in the preserving liquor, consists chiefly of this latter compound.

Already an experiment has been made in England on a large scale, to ascertain whether there is any truth in the objections which have been urged against Mr. Kyan's proposal. A South Sea Whaling vessel was built some time ago at Cowes, altogether of timber which had been seasoned as Mr. K. recommends. No accident occurred among the workmen in the building-yard, and the crew had lived for two months on board of the ship before she sailed, without experiencing any inconveniencies. It will be interesting to know the result of the experiment when she returns after a two, or three years' voyage.

We hear that Mr. Kyan has abandoned his project of preparing the cordage with the same solution; and he has suggested in lieu of it, a solution of caoutchouc, which, while it protects them against moisture, may serve to make them more elastic.

On the whole the report presented by M. Keraudren to the Academy must be deemed highly favourable to the proposal of Mr. Kyan.

On Spinal Diseases. By Dr. Enz.

It is an admitted physiological position that an injurious impression upon a large nervous trunk is felt not so much at the spot itself where the impression is made, as at the extremities of the ramifications of the nerve. The same remark is strictly applicable to the spinal marrow in its healthy and morbid relations; and it is by keeping this observation steadily in mind, that the scientific physician is often led to suspect and to discover the primary seat of a disease, which may be altogether overlooked and mistaken by the inattentive observer. Numerous are the affections of the thoracic and abdominal viscera, which in their origin depend upon an irritation of some part or other of the spinal marrow; and fortunate therefore, it would be, alike to the medical man and to his patient, if in all obscure diseases of these organs the examination of the spinal column was more frequently and attentively made. Of late years, much has been done to elucidate this most interesting department of semeiology, and the readers of this Journal must have derived great and valuable assistance from the copious reviews which we have given of Drs. Griffin, Marshall and Brachet's works in some of our late numbers. There is

a long, and in some respects a good paper on this subject in a recent number of one of the most esteemed of the German periodicals (Dr. Rust's Magazine) by Dr. Enz of Wurtemburg, and of this paper we now propose to select its most useful contents.

He informs us that spinal affections (we do not at present allude to distortions or any irregularities of the spinal column) are very frequent in his neighbourhood, the climate of which is damp, chilly and bleak, and where rheumatic complaints are exceedingly prevalent. The forms of disease which irritation of the spinal marrow is most apt, according to Dr. E's experience, to induce, may be arranged thus.

1. Certain diseases which more immediately implicate the nervous system alone; such as mania, melancholia, chorea (one species of which has been designated C. Rachitica) opisthotonos (either alone or complicated with the symptoms of chorea), syncope frequently recurring, or periodic, defects of sight, of speech, and of swallowing.

2. Diseases which affect the nervous and vascular systems simultaneonsly; such as nervous and intermittent fevers.

3. Diseases which seem to affect chiefly the vascular system; such as some rheumatic ailments, disturbances of the heart and large bloodvessels, and various affections of the other thoracic and of the abdominal viscera. In such cases, the character or type of the prominent symptoms will often vary; but very generally each very marked and decided change of the symptoms will be found to be attended with a change in the particular seat of pain or tenderness of the spinal column.

When the lungs are the parts which are sympathetically affected in spinal maladies, Dr. E. alludes to the great tendency which such sympathetic attacks have to be followed by attacks of decided inflammation of the organs, and ultimately to the deposition of tuberculous matter in their structure.

When the abdominal viscera are the parts which sympathize with spinal irritation, one of the most common forms of disease is that of Colica Damnoniorum, or that species of colic and the attendant systemic dlsturbance to which those who are exposed to the action of lead are liable. The early symptoms of this disease are often observed to indicate its origin and genuine nature. At first the patient complains of a dull heavy gnawing distress in the bowels, accompanied with flatulence, anxiety and depression. The attacks of pain are usually experienced most severely towards the evening; but as the disease continues, they become more and more prolonged, and remain often during the whole of the day without intermission. After a lapse of some time, one or more of the thoracic or abdominal viscera generally take on an inflammatory action: the stomach and bowels more frequently than the liver, or the lungs. In many cases, the symptoms of the inflammation are very obscure and scarcely to be suspected. Organic disease however may be going on all the time, and the patient, even although his appetite continues good, may gradually be wasting away, and ultimately die in a state of complete marasmus.

In other cases, especially when the constitution is tainted with scrofula, some part of the spinal column often becomes carious and distorted, and death ensues from a consuming hectic fever. The atrophy induced by the operation of lead is often associated with scirrhus of the pylorus, and also with hæmorrhoids.

Another order of diseases which is frequently dependent upon an affection of the spinal cord is that of hæmorrhages.

Thus epistaxis, hæmoptysis, hæmatemesis, and especially menorrhagia may in many cases be traced to this source. 'Often,' writes Dr. E., 'have I been summoned to consultation in obstinate cases of such hæmorrhages where all means of relief failed until once the real cause of the disease was discovered by a careful examination of the spine."

Dysmenorrhœa, with all its accompanying chloretic and hysterical symptoms, has very often its origin in some spinal affection; and we have little doubt in our own minds that the reason why the treatment of this disease is so

frequently unsatisfactory and inefficient is, that medical men are not in the habit of examining the spine and of directing their remedial measures to the part which is the primary source of all the evil. Dr. E. assures that, in almost every case of dysmenorrhœa, and in most cases of menorrhagia which have occurred of late years in his practice, he has found that some part or another of the spinal column was more tender under pressure than the rest of it.

So numerous indeed and complicated are the forms of disease which may be induced by spinal irritation, that Hinterberger has justly said, 'that there is scarcely one malady, whose mask it may not wear;' and availing himself of an expressive, but not very correct metaphorical epithet, he has denominated this department of pathology, the cryptogamic. How important therefore it must be to ascertain, in all doubtful cases, whether the spinal cord is at fault or not. Before we close these remarks, we are confident that our readers will be satisfied of the essential advantage which may be derived from such an examination, whenever the nature of any malady is obscure, or its treatment is unsatisfatory. The simple expedient of passing the finger with moderate pressure along the tract of the spine will in most cases be found quite sufficient to detect the latent evil. Whenever pressure is made upon the tender part, the prominent character or symptom of the existing affection will immediately be made more conspicuous. We very generally observe that, in patients who suffer from *constant vertigo*, pressure made over the tender upper vertebræ of the neck induces a boring or penetrating pain felt just behind the glabella of the frontal bone, and this pain is usually attended with a sense of giddiness and confusion; whereas, in cases of *periodic vertigo*, the eighth and ninth dorsal vertebræ are more frequently the sensitive ones, and pressure over them causes a pain in the epigastric region, and a feeling of a flattering or whirling movement, which commencing there gradually rises towards the head, and then the giddiness ensues. If this examination be made when the patient is standing, the giddiness is sometimes so great that he will drop down in a swoon, if not supported.

A student had been long annoyed with vertigo, weakness of vision, noises in the ears, dyspnœa, cough, palpitations, cardialgia, constipation, sleeplessness, and inactivity of the mental energies, amounting often to confirmed melancholy. On pressing the upper cervical vertebræ, he experienced pain in the forehead; when the pressure was made on the lower cervical and upper dorsal vertebræ, the breathing was much distressed—if lower down, over the sixth and seventh vertebræ then cough was induced; and when the space between the 8th and 10th vertebræ were pressed, a gnawing pain in the epigastrium immediately followed.

A boy, 13 years of age, had been for six months suffering, from frequently-recurring attacks of severe colic. These attacks usually came on towards evening, and were often so violent, as to cause him to writhe and roll himself on the ground from the pain. He had voided occasionally some lumbrici and the symptoms accordingly had been ascribed to vermination. But as the symptoms did not all abate after the expulsion of the worms, Dr. Enz suspected that the spine might be at fault. He found on examination, that sharp pain in the abdomen was induced, whenever firm pressure was made over the lower lumber vetebræ. Leeches and mercurial ointment were applied over this part, with considerable relief to tho symptoms—the tincture of stramonium was used with advantage, both internally and externally, and, ultimately, they were quite dissipated after the application of a blister.

Subsequently, the vision became considerably deranged, and vertigo, and also an inordinate appetite for food, sepervened. The cervical and upper part of the dorsal tract of the spine being now found to be rather tender, leeches and a blister were applied there, with the happiest effects. No sooner were these unpleasant symptoms removed, than the young patient bagan to be af-

fected with dyspnœa and palpitations of the heart which were sometimes so violent as to force him to start out of bed, and recover the upright position. The middle portion of the dorsal spine being now tender on pressure, a similar treatment, as on former occasions, was adopted, and with equally pleasing results.

This case illustrates the occasionally erratic character of spinal affections—a feature to which Griffin and Hinterbruger have alluded in their memoirs.

A woman consulted Dr. E. for a troublesome cough and dyspnœa,which had existed for upwards of a twelvemonth. These symptoms were accompanied with a sense of weight in the epigastrium, vertigo, sleeplessness, and tendency to extreme depression of spirits. On examining the spine, that portion of it between the fifth and the tenth dorsal vertebræ was found to be tender on pressure. It was leeched, and the mercurial ointment was afterwards applied to it night and morning. Subsequently, three successive moxæ were established over the most tender points, and pills, consisting of calomel, jalap, extract of nux vomica, and of the p. gratiolæ, were ordered to be taken for some time. These means greatly mitigated all her distressing symptoms, although a complete cure was not obtained.

But, in many cases the symptoms are much less distinct than in those now related, where the tenderness of a particular part of the spine very obviously corresponded with a particular train of symptoms. Sometimes a considerable extent of the spine is affected at the same time, and then not only one organ,or one set of organs sympathises, but several organs, apart from and independent of each other, are involved in the diseased action, and the character of the case is, therefore, very complicated and obscure. The following may be taken as an example of such a state of things.

A man, 57 years of age, was seized, in Feb. 1832, with an inflammation of the neck, which caused great stiffness and pain in the part. Without any warning he expectorated, or rather vomited a large quantity of coagulated blood, and Dr. E. was summoned to his assistance. He found him suffering from a violent spasmodic cough, great dyspnœa, dreadful pain at the scrobiculus cordis, a sense of burning in both hypochondria, and a cutting pain in the hypogastrium. The bowels had been constipated for the preceding four days; a degree of strangury also existed and the lower limbs and scrotum were enlarged, from œdematous effusion.—The patient complained much of general coldness, and he felt, to use his own expression, as if cold water was poured down his back. These symptoms induced Dr. E. to examine the spine. The extent from the 3d to the 6th cervical vertebræ was very painful on pressure; from the 6th cervical to the 3d dorsal, it was free from tenderness; but lower down, as far as the 7th dorsal vertebra, it was again painful when pressed upon. The rest of the spine, with the exception of the three lowest lumbar vertebræ was not at all tender. Leeches were applied, and then some mercurial ointment was rubbed in over the parts which were tender. Several doses of active purgatives were administered. The symptoms were decidedly abated by these means, and the sense of the general coldness was much diminished. But every now and then the cough and dyspnœa,or the severe abdominal pains, returned continuing generally for several hours at a time with great severity. Blisters were used with only partial relief. An emulsion, containing oil of turpentine (so useful in acute neuralgia) and sulphate of soda, speedily mitigated the distress in the breathing so much, that in the course of three or four days he was able to resume his customary employment. After a lapse of some months, he experienced a relapse of the cough, and of the œdematous swellings; and these symptoms were now accompanied with great rheumatic pain of the scalp, and with urticaria over the whole surface of the body. Complete relief was again obtained, by the administration of the spirit of turpentine.

In the history of spinal irritation, it

deserves to be noticed that, in some rare cases, there is not a strict or uniform correspondence between the suffering organ and the affected portion of the spine; or, in other words, that the disease sometimes exhibits itself not in the organ or organs which derive their nerves from, and which usually sympathise with, that portion of the spine which is tender on pressure—but in other organs, at a distance from, and unconnected with it. Thus, Dr. E. has observed a severe and most obstinate colic, when the lower cervical and upper dorsal vertebræ only were tender on pressure, and this colic was cured by the inunction of the mercurial ointment, and by the application of blisters over the tender region: and, again, in more than one instance, he has seen a long-protracted periodic vertigo, coexistent with, and seemingly dependent upon, an affection of that portion of the spine between the sixth and eighth dorsal vertebræ, a cure being effected by the repeated blistering of the part.

This want of uniformity between the set of existing symptoms and the portion of the spine affected, is most conspicuous in mental diseases. Sometimes the entire extent of all the cervical and dorsal vertebræ is exceedingly tender on pressure; at other times, only one part of this extent (and perhaps the most frequently affected in the interscapular portion) indicates this sensitiveness. But why, in the latter case, a cough, and, in the former, a complication of morbid phenomena is not always present, is as difficult to be explained, as that an affection of the cervical vertebræ should give rise, in one instance, to a constant vertigo—in another, to some defect of vision, and in a third, to dysphagia. These are among the mysteries of spinal pathology.

Hitherto we have alluded to the symptom only—that of tenderness of some of the vertebræ on pressure—of spinal affections. But there are other signs or symptoms, which, although less obvious and characteristic, are very generally present whenever any portion of the spinal chord is at all disturbed by disease. There is a remarkable weariness and lassitude of the whole body; the patient is fatigued on the slightest exertion, and he feels, when he exerts himself, as if his knees gave way underneath him. At some part of the abdomen, there is often a constrictive pain, and this usually distresses the breathing, and gives rise to frequent yawning or sighing, or even sneezing. In most cases, unless indeed the affection is confined to the lowest part of the spine, there is a decided tendency to attacks of shivering, syncope, and of palpitations of the heart. The appetite is very often not at all impaired, at least for a length of time; sometimes it is unusually active. Any irritating food, however, and more especially spirituous drinks, add to the general uneasiness of the patient, although he may remain all the time free from any well-marked-febrile irritation, and be able to attend to his accustomed employments. As a general remark, it may be stated that the vascular system does not usually indicate any decided disturbance of its actions for four, or even six or ten months after the commencement of the spinal malady, unless indeed the general powers of the system began speedily to decay from atrophy and marasmus. The varying character and intensity of the symptoms which we have enumerated above, give rise to numerous modifications of spinal disease. The pains felt in the abdomen may be either acute or dull; sometimes they are burning or tearing, or boring—at other times they are felt as if the short ribs, or the parietes of the abdomen, were dragged away from their attachments. When the epigastrium is the seat of the distress, the patient will often be found to complain of an unutterably distressing sensation, as if a heavy body there was suspended upon a thin thread, and every moment threatened to sink down.

The cough is very generally of a convulsive character, recurring in paroxysms of great severity; and the distress of breathing is sometimes so great, that the patient is in danger of immediate suffocation. Numerous are the cases of asthma which are primarily owing to irritation of some portion of the spinal marrow.

In female patients the catamenia are almost always very irregular in the course of spinal diseases; usually they are scanty—but an occasional attack of menorrhagia is not unfrequent, especially when there has been a complete cessation of the discharge during several months previously. The action of the bowels is usually more or less torpid; this state of torpor being, however, occasionally interrupted by a diarrhœa, of some days' standing. The excretion of the urine is not less frequently affected. A degree of dysuria or ischuria is often present, and sometimes there is an incontinence, giving rise to constant dribbling of the water. Some authors have asserted that there is generally a deficiency in the quantity of the urine secreted; but this observation is not confirmed by Dr. E.'s experience.

In addition to these more prominent symptoms of spinal irritation, there are others of minor importance indeed, but which, when present, render the diagnosis more clear and satisfactory. To this class belong the flying pains and twitchings of the extremities, more especially in the calves of the legs, and in the fingers of one or of both hands. Œdema of the feet is a symptom of occasional occurrence. The sleep is very generally short, uneasy, and interrupted. In some cases, there is an almost total deprivation of sleep for several weeks at a time.

The perceptions of the different external senses are apt to be more or less impaired or perverted. Thus the sight, the hearing, the taste, the smell, and the touch, are all occasionally subjected to various irregularities and depravations. Here we may allude to a not uncommon symptom of spinal irritation, that species of headache to which the appropriate appellation of "clavus," has been given. The headache is sometimes, however, much more diffused than in the ordinary "clavus," for the whole extent of the scalp is frequently affected with a most distracting pain. In the neck, along the tracks of the nervi vagi, the patients often complain of a stretching or dragging pain, as if the windpipe was forcibly blown out.

The abdominal muscles are not unfrequently affected with partial spasms, so as to cause the surface of the belly to be drawn into numerous irregular hollows and elevations. We have already alluded to the sensation which is often experienced as if cold water or ice were laid on some part of the spine. The "decubitus" of the patient deserves to be noticed. He usually lies on his back, and the effort to turn his body round causes uneasiness, or even positive pain, at some part or another.

The skin, provided no fever is present, is commonly cool, and of an unhealthily pale or yellow colour. In some cases, especially when the disease is acute, and in which the irregular fits of shivering already noticed are apt to occur, the unexpected phenomena of the skin being warm and moist during these cold fits, and, as the shivering abates, of its becoming again marble-cold, is not unfrequently met with. Whenever the vascular system is once fairly involved in the morbid process, a marked change in the symptoms is observed. The patient is no longer able to attend to his employment, or even to move about without great distress: often indeed he is obliged, from this period, to confine himself to bed. His appetite decays, and all his energies gradually waste away. He begins now to feel sharp burning pains in some part of the spine, greatly aggravated on any exertion. If the chest has been the part chiefly affected, the cough becomes more troublesome, the expectoration increases in quantity, and, at length, a confirmed consumption may be induced, in other cases, the encephalon is the part which suffers most severely, and then a state of raving delirium, or of slow feverless insanity, comes on. Dr. E. has related several cases of mental disquietude, varying in degree from temporary melancholy to confirmed derangement, which, he thinks, was owing mainly or altogether to irritation of the spinal chord. The narratives of these cases certainly do not, in our opinion, warrant such a conclusion; and we shall, therefore, abstain from detailing their particulars.

The following case of chorea rachi-

tica is more worthy of notice, and more especially as it will afford to our readers a fair specimen of the therapeutic practice of an enlightened German physician.

A girl, 13 years of age, was brought in Sept. 1832, to Dr. E. in consequence of convulsions, with which she had been afflicted for the preceding fortnight. He could learn no further particulars of the case. A mixture, containing four grains of calomel and of the flowers of zinc, a drachm of gum arabic and four ounces of black cherry water was ordered; of this, a tablespoonful was to be given every two hours, and the spine was ordered to be rubbed night and morning with a liniment, composed of camphorated hartshorn oil, spirit of turpentine, and extract of henbane. For the following sixth months, little amendment took place. Powders consisting of calomel, jalap, and extract of valerian were prescribed. The frequent strangling cough, the half-bent state of the fingers and hands, the tremulous movements of the head, the tenderness of the epigastrium on pressure, and the throbbing pulsations of the abdominal aorta—all these symptoms confirmed Dr. E.'s suspicions, that the cause of the evil was in some part of the spinal marrow. When the little patient attempted to speak, the corners of the mouth were distorted, and often indeed the jaws were spasmodically closed, and an attack of partial opisthotonos ensued. Her gait in walking was trembling and unsteady, so that, unless she was supported, she would be every now and then falling down. Deglutition also was at times difficult, and even impracticable. On examining the back, almost the whole extent of the spine, more especially the cervical and interscapular portion, was found to be very tender on pressure. The calomel jalap, and valerian powders were ordered to be continued, and a liniment, composed of mercurial ointment and of extract of opium, was rubbed along the spine every night and morning; premising, however, the application of some leeches over the most tender points.

By steadily persevering in this treatment for the space of six weeks, a decided improvement was obtained; and ultimately the girl was quite restored to health.

A case also of opisthotonos, induced by exposure to cold and damp, from lying all night on the wet grass, is related. The muscles of the jaw were partially affected. The attacks of spasm occurred usually towards evening and at night, and were accompanied with violent pain in the right hypochondrium, and with great dyspnœa. As soon as the patient, a middle-aged woman, felt the paroxysms coming on, she was obliged, if reclining, to spring up, and to hold by two or three people, to maintain herself in the upright position. On examining the spine, some of the middle dorsal vertebræ were very tender on pressure. Leeches and the cupping-glasses were applied repeatedly over this part, and the mercurial ointment was rubbed in afterwards. These, along with some internal remedies, were used steadily for several weeks, and ultimately with an entire relief of every symptom.

Several cases of obstinate vertigo, constant as well as periodic, are related, in which a tender state of some portion of the spine seemed to be the real cause of the mischief, seeing that cures were effected by an appropriate treatment, directed to the removal of the spinal affection. Dr. E. has generally observed, that the constant or abiding form of vertigo is accompanied with a tender state of the upper cervical vertebræ—and the periodic form, with a tender state of the lower cervical, or of the upper dorsal vertebræ. The following case of vertigo, associated with amblyopia and dysphagia, is interesting.

A countryman, having been much exposed to wet and cold began to experience sharp flying pains in both lower extremities, and also in the hypochondriac and epigastric regions. The pain felt in the epigastrium was

accompanied with a dull oppressive pulsation, and with excessive languor and oppression. The bowels were much confined, and the patient suffered from occasional vertigo. This last-named symptom was usually most severe towards the evening, and during its presence the sight was so imperfect, that he could scarcely distinguish any object. For upwards of half a year, the health of this man became gradually more and more impaired. He began to experience great difficulty in swallowing; his hands were occasionally affected with convulsive twitchings, and a most distressing strangury was added to his miseries. The bowels were most obstinately costive; at times he saw double; at other times he was nearly blind. The spine was examined by Dr. E., who found that all the cervical vertebræ were very tender when pressed on. By the use of local depletions, of frictions with mercurial ointment, and of blisters, associated with the internal administration of calomel, jalap, and valerian, this man was eventually restored to perfect health.

Dr. E. has been able to trace in several cases the dependence of amaurosis on a spinal affection. The following may be taken as an instance of this sympathy.

A man began in his twenty-fifth year to experience great weakness of vision. In the course of a few years he became completely amaurotic: the strongest light made no impression on the eye. Besides the blindness, he suffered from a constrictive pain in the region of the diaphragm, and from great weakness and occasional tremors of both the upper and the lower extremities. All the visceral functions, however, appeared to be healthily performed. The second, third, and fourth cervical vertebræ were found to be tender on pressure. The middle dorsal, and one or two also of the lumbar vertebræ were tender.—Leeches first and then camphorated volatile mercurial ointment were applied to the affected portions of the spine; and occasional doses of calomel and jalap were administered. A blister also was applied to the nape of the neck, and an eighth of a grain of strychnine was sprinkled daily on the raw surface. The sight having returned partially under this treatment, the dose of the strychnine was raised to a fourth of a grain. Within a month after the commencement of Dr. E.'s attendance, the patient could distinguish the light of a candle, (which, we are informed by our learned author, is in that part of Germany a good beechen stick, full four feet long!) After the blister had healed up, several moxæ were established on the nape of the neck. Blisters were subsequently applied on the temples, and their surfaces sprinkled with minute quantities of strychnine. Eventually the sight was restored so much that he could distinguish, indistinctly indeed, the outlines of most objects.

The following case of mental disease, presumed to be dependent on spinal irritation, is selected from a multitude of less interesting examples.

PARTIAL INSANITY, WITHOUT FEVER.

A man, of a firm robust constitution, began to exhibit, in the Autumn of 1830, signs of insanity, and oppression of all his physical and mental energies.

He suffered occasionally from severe colic, especially after drinking wine, or other liquors. In the March of the following year, he was seized, after exposure to wet and cold, with an inflammatory fever, which was accompanied with delirium. As the febrile symptoms abated, the insanity returned in an aggravated degree. For the six successive weeks he did not sleep a single minute. Dr. E. was led to suspect that the spinal cord was somehow at fault. Firm pressure over the lumbar and lower dorsal vertebræ excited no uneasiness; but pressure over the upper dorsal vertebræ immediately caused him to wince and cry out. The cervical vertebræ might be pressed upon without causing any inconvenience. The tender region was freely leeched, and afterwards anointed twice a day with mercurial ointment. Calomel, united with minute doses of cocculus indicus, was administered inwardly.

The restlessness was in some degree

subdued, after this treatment had been pursued for a short time.

A blister was then applied, and small doses of emetic tartar, to be frequently given, were substituted for the calomel: purgatives also were occasionally used.

By following out this plan of medication, this man was eventually restored to at least a much better state than he had been in for some years, and even enabled to resume his occupation as a common labourer.

Several other similar cases are adduced by our author.

In all of these, tenderness of some part of the spine, was a prominent symptom, and relief was invariably derived from local abstraction of blood. But as most of these cases were of recent standing, and the other therapeutic means were powerful and steadily continued, it is impossible to determine, how much of the ultimate benefit is to be attributed to the leechings. It may be worth while to mention a formula, which he tells us, is often of the greatest use in cases of chronic illness connected with disease of the spinal marrow.

℞. Oxymur. hydrarg. gr. ij.
Extract. nucis vomicæ, gr. viij.
——— Aconiti, gr. viij.
——— Glycirrh. ℈j M. in pil. xx. divid. ii. q. n. et m. sum.

These pills Dr. E. recommends strongly in neuralgia, chronic rheumatism, &c.—*Rust's Magazin für die gesammte heilkunde.*

There are some valuable hints and suggestions in the preceding observations of Dr Enz. Like most authors on any favorite topic, he carries his speculations too far, and ascribes an inordinate share to spinal irritation in the production of diseases; for example, in referring most cases of dysmenorrhœa to this source. Some cases have very recently come under our own notice, which very aptly illustrate the importance of attending to the spine in some obstinate and obscure cases. One of these is more than ordinarily interesting. A youth had for nearly sixteen years been subject to frequent returns of dreadful palpitations of the heart. These attacks, though appalling at the time, usually passed away in from a quarter of an hour to an hour, or rather more, leaving the patient only somewhat exhausted. His general health, although delicate, did not suffer much; he was able to take very active exercise, and could ride upwards of forty miles a day; and it was generally observed, that the more exercise he took, the less subject was he to the palpitations. The inducing cause of these attacks was obscure; for often would they come on when he was quite quiet, and even when asleep. The greatest relief was obtained by pressing the chest very firmly against any firm object, as a stool, the post of the bed, &c. while an attendant kept beating the back with his fist.

The case had been examined by many of the most able physicians in London and Edinburgh, and had been regarded by all of them as one of organic disease of the heart. That the heart was greatly hypertrophied they all agreed, but whether the valves were diseased, was disputed by some. (We never had an opportunity of examining the case ourselves, nor did we ever hear what were the stethoscopic signs.) The patient himself had discovered that pressure upon the lower cervical and the upper dorsal vertebræ always induced a sharp pain in the region of the heart, and a tendency to an attack of the palpitations and he used to maintain against the opinion of all his doctors that the heart itself was not diseased. An attack of bronchitis last December proved fatal. On dissection, it was found that the heart was quite normal, with the exception of a very inconsiderable hypertrophy of its walls. There was a slight lateral curvature, with the convexity to the left side, of the lower cervical and upper dorsal vertebræ.—*Rev.*

On Secondary Abscesses, by Dr. Nasse of Bonn.

Under the term "secondary abscesses" are included all such purulent deposits as are formed in a part or parts (generally visceral) remote from, and uncon-

nected with, the seat of a primary abscess. Secondary abscesses are found to occur most frequently after wounds of the head, amputations, fractures of bones,operations on the womb,or on the mamma, the removal or hæmorrhoidal excrescences, and all wounds or injuries of veins. The internal organs, in which such abscesses are by far the most frequently found, are the lungs and liver. It is rare to meet with cases in which secondary abscesses exist in any internal part, without the lungs being at the same time similarly affected. In the bags of the pleura and peritoneum, secondary purulent effusions sometimes take place :—the spleen too is occasionally the seat of secondary abscesses. The pleura indeed very generally becomes sympathetically inflamed, whenever any secondary abscesses are formed in the pulmonary texture ; and when so affected, it soon begins to exude a puriform fluid. The various synovial sacs are very frequently the seats of purulent deposits. Some portions of the cellular tissue, and especially that in the mediastina, are occasionally, but much more rarely so. The substance of the brain also is sometimes, although very rarely, the nidus of secondary abscesses. Even the thyroid gland and the cornea of the eye have, in a few instances, been the suffering organs.

Hitherto the German writers on surgery have strangely overlooked this curious and important subject of pathological research, although their attention might have been drawn to it by the remark of some of the French authors of last century in reference to the secondary effects of injuries of the head.

Among the English surgeons, the late Mr. Rose of St. George's Hospital, is among the first who deserves well of his professional brethren, by having illustrated this subject in a paper published in the 14th volume of the Medico-Chirurgical Transactions of London. Subsequently M. Dance, in the t. xix. of the Archives Générales, and Cruveilhier, in his Anatomie Pathologique, have added many interesting details to our stores of knowledge. They have pointed out the very frequent connexion of secondary abscesses with inflammation of the veins.

Dr. Nasse informs us that he has had for several years past many favorable oportunities of witnessing cases, wherein secondary abscesses were discovered on dissection. In tracing the pathogeny of these lesions, there are, says he, three stages to be observed. The first may be characterised as that of blood-infiltration into the affected tissue :—the second, which is in fact the commencement of the suppurative change, is distinguished by the affected part acquiring a yellowish colour, and a soft easily lacerable consistence, so that it breaks down between the fingers, while the surrounding textures become more vascular and indurated than in health ; and the third or last stage is that of the infiltration or of the circumscribed deposition of purulent matter. A peculiar feature of secondary abscesses is the well marked limitation (scharfe begränzung) of the sanguineous, as well as of the purulent infiltration in the affected tissue. The pus deposited is usually thick, yellow-coloured, and is not always quite uniform in quality. Sometimes it is firm and almost solid, and then it is not unlike to soft tuberculous matter. In the centre of such pseudo-tubercles, some fluid pus is usually found.

So much for the general features of secondary abscesses. We shall now briefly examine their particular characters in reference to individual organs.

In the Lungs, the organs most frequently affected, the earliest appearances of secondary purulent deposits are dark-red circumscribed spots, or patches, not unlike to what we observe in those parts of the pulmonary tissue which have been at a former period the seat of apoplexia pulmonum, induratio hæmoptyca of Laennec. In the course of a short time, the red colour of the spots becomes streaked or marbled with numerous yellow lines or points, such as we observe in the grey hepatization of a portion of lung, which has suffered from inflammation. As the structure of the part becomes more decidedly and uniformly yellow, it loses its firmness, and is readily lacerable,

breaking down on pressure, and presenting a remarkable degree of porosity, after it had been squeezed between the fingers. When washed, it has a grey colour, and is then like to, but much softer than, a portion of grey-hepatised lung. If thrown into water, it usually sinks at once to the bottom, or hangs suspended some way below the surface. The effects of maceration satisfactorily demonstrate that the purulent matter is actually infiltrated into the pulmonary texture. The pulmonary tissue in the immediate neighbourhood of, and forming the walls of secondary abscesses is very generally thickened, and appears to be more highly vascular than in a state of health. The infiltrated matter, as it increases in quantity, and in consequence also of the breaking down and solution of the interposed tissue, gradually becomes more and more completely connected into one uniform abscess, until at length there is formed a perfect sac of matter, the walls of which sac are firm and resisting. This matter when examined on dissection, is however unusually mixed with ligamentous or cellular shreds (häutigen thelien) floating in it. The number of secondary abscesses in an organ differs greatly in different cases. Sometimes we meet with one large abscess only; at other times there are not fewer than twenty. Their size too is quite as various; some being not larger than a kidney bean, while others equal a hen's egg. Dr. Nasse has occasionally seen a lung exibiting in different parts of its structure, secondary abscesses in all their various stages, from that of simple lobular engorgement and discoloration, to the formation of a perfectly encysted deposit of pus. Secondary abscesses are found most frequently in the lower lobes of the lungs, and in the lower portions of these lobes. Once only has our author met with a considerable number of them in the upper lobes. They are more common in the posterior than in the anterior portions of the lungs. According to the researches of Mr. Rose, the greater number of pulmonary secondary abscesses are superficial, immediately under or at least very near to, the investing pleura, which is then usually uneven, discoloured, streaked with numerous minute vessels, and often covered with an exudation of coagulable lymph. Sometimes however they are found in the very central parts of the lobes. The pulmonary tissue surrounding the walls, and indeed the walls themselves of secondary abscesses, are sometimes quite gangrenous, and then the contained matter is always offensive and fætid. Cruveilhier has described minutely the appearances which he has found in the neighbouring bloodvessels. They are usually plugged up with coagula. In these coagula he has frequently met with minute depositions of pus.

When secondary abscesses are formed in the Liver, their development is indicated at first by dark brownish-red blood-patches (blut-flecken). In these, as the purulent matter is gradually deposited, the minute grains of acini of the hepatic substance become of a yellowish colour, the affected portion presenting then the appearance of some sorts of granite. As the pus increases in quantity this marbled appearance becomes more indistinct, and the part becomes of uniformly yellow colour, until at length the solid matters are quite broken down and dissolved or absorbed, and an abscess more or less completely encysted is formed. Dr. Nasse has found in a liver as many as forty secondary abscesses, varying in size from that of a pea to that of a fowl's egg. Cruveilhier mentions a case, in which there was only one large abscess, occupying a considerable extent of one lobe. Bertrandi was of opinion that these abscesses are more frequent on the convex, than on the concave side of the liver. They are met with in all parts of the viscus; immediately under its tunica propria, as well as deeply imbedded in its substance. The contents of secondary abscesses in the liver are described as being usually "yellow coloured, coarse-grained, floculent, adhering to the parietes of the abscess, and not unlike to the parenchyma of the liver, after it has been macerated for a considerable time." Laudable pus is very rarely or never

found in such abscesses. The veins contiguous to the abscesses often contain pus mixed with coagula of blood.

The changes which precede the formation of secondary abscesses in the Spleen have not been satisfactorily investigated. We have already stated that abscesses are of rare occurrence in this viscus. When purulent matter has, in such cases as we are now alluding to, been discovered in the Joints, the lining synovial membrane, very often, nay generally, exhibits no traces of inflammation; it would seem as if the purulent effusion had been poured out as a simple exhalation, without any previous inflammatory action.

Dr. N. alludes to the discrepancy of opinion between the French and English surgeons, respecting the relative frequency of secondary hepatic abscesses after injuries of the head:—the former representing it as a very common accident, while the latter in their writings do not frequently allude to it. His own observations agree with those of the late Mr. Pott, and of Sir B. Brodie, that there is in fact no greater sympathy of morbid action between the head and the liver, than between the head and some other parts, such as the lungs or peritoneum. Valsalva informs us that in all his examination of patients who had died after injuries of the head, the liver was only once, and the lungs were four times found to be affected; and Klein is of opinion that the liver is more apt to be the seat of secondary abscesses after lesions of other organs, than of the head.

The researches of most recent pathologists confirm these views in opposition to the long-taught doctrines of the French school, and prove that the lungs are more frequently affected with secondary suppuration than any other parts of the body, and that whenever any other part is so affected, the lungs almost always suffer at the same time.

Mr. Rose however, has reported one case, in which the liver only was found to be the seat of secondary abscesses; all other organs being sound. Such a case is of very rare occurrence; and we may therefore re-affirm with perfect confidence that, whenever a secondary abscess is discovered in the liver, some other organ, and most frequently the lungs, will be found to be similarly affected.

Wounds, amputations, fractures, &c. of the lower extremities are observed to induce secondary abscesses in the lungs much more frequently than either in the liver alone, or in the lungs and liver together—in the proportion of at least 11 to 3. As examples of hepatic secondary abcesses existing alone and unassociated with any similar lesion in other organs, we may refer to a few cases published by the English surgeons Hennen, Lawrence and Rose, and also by Cruveilhier in his Anat. Path. 'Maladies du foie.' According to some experiments on brutes recorded by the last-named author, mechanical irritation of the vena cava inferior is apt to be followed by the formation of secondary abscesses, and such abscesses, he says, are invariably found in the pulmonary structure. After injuries of the lower extremities, the hip and knee joints are not unfrequently the seat of purulent effusions. Occasionally the joints more remote from the seat of the injury are similarly affected. Our author has discovered in one or two instances secondary abscesses developed in muscular tissue:—the diaphragm is perhaps more liable to this lesion, than any other muscle. The pericardium, peritoneum, intestinal mucous membrane, and even the brain are not exempt from a liability to secondary inflammation, and suppuration, after injuries of the extremities.

Dr. Nasse informs us that, after wounds and other injuries of the upper extremities, the liver is more frequently affected than the lungs, an observation which we should certainly not have 'à priori' expected. Abscesses have been repeatedly found after such injuries in the former viscus, while the lungs were altogether free from them. The pleura may become inflamed and may exude a purulent effusion without the pulmonary parenchyma being decidedly involved in the morbid process.

Mohrenheim has occasionally discovered an effusion of purulent matter into the abdominal cavity; and Lawrence once found matter in the knee-

joint, without any other co-existing lesion, after a fracture of the os humeri. The shoulder-joint itself is very frequently the seat of such effusion. The pericardium, and even the substance of the heart itself have been found to exhibit traces of secondary inflammation and suppuration after injuries of the upper extremities.

Mr. Travers mentions two cases in which he found purulent matter in the jugular veins of horses—in one, the inflammation had extended upwards to the brain, and in the other, it had descended to the lungs and pleura. Gaspard performed many experiments on dogs, to ascertain the effects of injecting into their bloodvessels purulent matter taken from the human subject: —the lungs, heart and intestinal canal, in numerous instances were found to exhibit signs of inflammation.

It is proper to state that Velpeau, Majendie, Provost and others, have repeated these experiments, and that the results obtained by them have been very inconstant and indecisive.

We have not yet alluded to the effects, which disease in organs whose veins belong to or communicate with the Portal system, has in inducing secondary abscesses in distant parts. Suppuration occurring in the uterus, the bladder, or the rectum, is followed sometimes by the formation of secondary abscesses in the liver only; in other cases the lungs alone, and in a third set of cases, the lungs and the liver simultaneously have been affected. More rarely the spleen, the brain, and the joints are in such cases the parts sympathetically diseased.

The *symptoms* which usually accompany the development of secondary inflammation and suppuration, although obscure, and necessarily varying according to the organ chiefly affected, indicate in all cases a great and decided constitutional disturbance.

It is commonly at some period between the tenth and the twentieth day after the receipt of the injury, or the formation of the internal disease, that the secondary symptoms are first observed. In some cases, however, the date of their appearance is later—not until the fourth or fifth week. Indeed, as long as any primary suppuration exists, a sympathetic morbid action may be developed at some remote part, this action giving rise ultimately to the formation of secondary abscesses.

No age or constitution is exempt from this very serious complication; but the dissipated and unhealthy are most exposed to its attacks. The earliest indication of the mischief is usually the occurrence of hectic chills, followed by high vascular excitement, and by more or less profuse perspirations.

Indeed, it may be asserted with much truth, that whenever these unpleasant symptoms come on at any period between the second and fourth or fifth week after the receipt of an accident, or the infliction of an operation, the surgeon has too much reason to suspect an incipient suppurative process in some part or another. The frequency of the venous trunks and branches in the neighbourhood of the primary lesion being found on dissection inflamed, and containing pus, might lead us to expect that the phlebitis should be often discoverable during life, at least in those parts where the veins are superficial. But this is rarely or never the case. The wound, if external, may have taken on an unhealthy aspect, the lips having become inflamed, and the discharge scanty and ichorous, and the affected limb may have assumed an œdematous enlargement (a tolerably certain sign, in such cases, of an obstructed venous circulation): but the veins themselves nevertheless are not, at least generally, to be felt like hard and unyielding cords, as in ordinary cases of phlebitis. When the lungs are the seat of the sympathetic suppuration. there are, in addition to the pyrexial symptoms already noticed, cough, constriction of the chest, dyspnœa, and great anxiety. Neither percussion nor auscultation will assist our diagnosis much, the inflammatory and suppurative changes being too circumscribed, and too scattered, to affect materially the normal sounds, unless indeed effusion into the cavity of the pleura has already taken place. In some cases, the pulmonic symptoms are exceedingly

obscure, even when large and numerous vomicæ are found throughout the lungs after death.

Dr. N. alludes to such a case, in which the patient had not exhibited a single thoracic symptom. On dissection, several abscesses were discovered in the lungs, and also in the substance of the brain. Equally uncertain may be the symptoms, when the disease is seated in the liver; sometimes there is a fixed pain in the right hypochondrium, and this pain may be accompanied with an icteric discolouration of the skin, and with an unhealthy state of the alvine evacuations; at other times, none of these characteristic signs are present, and yet the viscus may be found as seriously injured as in the former case. Whatever may be the condition and progress of the local distress, the constitutional disturbance invariably increases in severity, and becomes more and more alarming. The patient falls into an adynamic or typhoid state—the tongue becomes parched and brown—the skin hot or wet with perspiration—the pulse rapid, feeble, and irregular—the patient is restless and soon exhausted, and delirium and stupor usually precede, for a day or two, the fatal event.

With respect to the presumed etiology of secondary abscesses, it may be interesting to revert to the doctrines entertained by some of the older French surgeons, on the cause of that sympathy of the liver with the head, which disposed the former organ to be so frequently affected after wounds and other injuries of the brain, or of its hard and soft envelopes. Bertrandi proposed the following explanation. When any part of the head is inflamed, the blood is sent through the carotids and their branches, and necessarily returns also by the jugular veins in larger quantity, and with greater force, than usual. The descending current in the vena cava superior, meeting with the ascending current in the cava inferior, obstructs it to a certain degree, and thus causes a degree of pressure backward upon the blood in all the veins which enter into the inferior cava; the hepatic veins being large, and situated near to its termination, feel this pressure the most, and, in consequence of the congested state of the liver thus induced, inflammation of its substance is excited. A somewhat similar notion was entertained by Ponteau, who referred all sympathetic inflammations to some local obstruction and congestion of blood.

Chopart, Dessault, and, more recently, Richerand, have rejected the idea of any secondary or sympathetic origin of the abscesses we are now speaking of, and maintain that they are always the result of some positive injury of the organ, received at the same time with, or subsequently to, the conspicuous and apparently more serious accident, which has been deemed the primary one. Thus, with respect to hepatic abscesses occurring after injuries of the head, they refer them to the contusion or concussion of the liver at the time of the accident. Well may Dr. Nasse express his surprise at such sentiments from men so practical as the great Dessault, of last century, and the able and acute Richerand, of the present. May not injuries of the head be received without any concussion of the rest of the body? and are such cases invariably exempt from the occurrence of secondary abscesses? And how, according to this doctrine, shall we explain the formation of pulmonary abscesses, so frequently found in the bodies of those who have died after amputations, and other operations? But it is surely quite unnecessary to urge more objections.

A more recent hypothesis, as to the origin of secondary abscesses, is founded on the assumption that, in all cases, tuberculous deposits have primarily existed in the sites of these abscesses, and that the deposits have been converted into purulent collections, in consequence of inflammation induced by a febrile excitement of the system. The entire absence of unchanged tubercles in other portions of the diseased organs—the occasional extreme rapidity of the formation of secondary abscesses, and the characters of their contents, are powerful objections to the truth of this theory.

Bichat, Boyer, Bricheteau, and others,

are disposed to attribute secondary abscesses to a purely nervous sympathy between the seat of the primary lesion, and the organ secondarily diseased. In reference to the effects of injuries of the head on the liver, the nervous sympathy existing between these parts is, they say, indicated by the bilious evacuations and the icteric discoloration of the surface, which so frequently supervene on wounds and contusions of the head, and also by the results of experiments, in which the nervi vagi have been tied or otherwise injured. Unfortunately, however, the very appeal to these experiments is somewhat unfavourable to the cause they are adduced to prove; for the lungs and pleura are, much more frequently than the liver, found to be inflamed after the tying of the nervi vagi.

Some of the best pathologists of the present day, finding that all the preceding doctrines are quite untenable, have adopted the opinion, that secondary abscesses are in all cases owing to the direct absorption of purulent matter from the seat of the primary lesion into the sanguineous circulation, and to its subsequent deposition in organs at a distance from it. An argument strongly urged in favour of this opinion is, that the veins in the neighbourhood of abscesses and of suppurating wounds, are often found to contain genuine pus.

Velpeau, Cruveilhier, &c. have found pus in the inferior cava, and in the right cavities of the heart, in patients who have died after amputation of the leg.*

Purulent matter has been found in the lymphatic vessels by many anatomists; but it does not seem probable that it enters the circulation in this manner, not only because genuine pus has never been discovered in the thoracic duct by such pathologists as Andral, Dumas, and Gaspard, (and only once or twice by Velpeau,) but also because it would necessarily be arrested in its progress at the conglobate glands.

Notwithstanding these objections, the phenomena of some cases, where collections of matter have very suddenly disappeared, and the urine has thereupon been charged with a quantity of semipuriform deposit, are explicable only by supposing, that the pus has been taken up by the absorbents. Chelius and Treviranus relate the particulars of an interesting example of empyema, in which the urinary deposit was observed to be remarkably similar to the fluid which was discharged from the thorax. In such cases, it is probable that the thinner parts only of the pus are directly absorbed, as the globules of ordinary pus are said to be too large to pass freely through the ordinary lymphatics, and, as some abscesses which have become very suddenly dispersed, have been found to contain a substance not unlike to half-softened tuberculous matter. When quicksilver has been injected into the veins, and the animals have died some time after the experiment, small abscesses, presenting much of the appearance of tubercles, have been found around the metallic globules discovered in the lungs and in the liver.

On the whole, it appears to us the most rational and best-supported etiological doctrine of secondary abscesses, to trace their connection with, if not their immediate dependence upon, a diseased condition of the veins immediately adjacent to the seat of the primary lesion.

After fatal amputations, and injuries of the head which have been unfortunately followed by the formation of secondary abscesses, the veins leading directly from the wound, in the former case, and, in the latter, the veins and sinuses of the brain and of its membranes, have been almost always found inflamed, and containing pus. The re-

* It deserves notice, that coagula of blood, containing pus, have been found in the right cavities of the heart by Laennec, Legroux, Hache, and others, although there was not a "foyer" of suppuration in any part of the body. In all these cases, the blood itself was in a diseased, degenerated condition. Flandrin (*Révue Med.* 1831) found pus in a coagulum in the left ventricle, in a woman who had died, after a long agony, from hypertrophy of the heart and inflammation of the lungs.

sults of very numerous dissections have satisfied Dr. Nasse, that phlebitis in some part of the body, and most generally in the immediate vicinity of the original disease, is, in the majority of cases, an accompaniment of secondary abscesses. Often, when this morbid appearance has not been discovered, Dr. N. is of opinion that it might have been so, had the bloodvessels of the bones been minutely examined; and he attributes to this omission the circumstance of his meeting with fewer cases now than formerly, where no tracts of phlebitis have been discovered in examining the bodies of those who have died with secondary abscesses. To prove the importance of investigating the veins of the bones, it is worthy of notice that Cruveilhier, after injecting some quicksilver into the medullary cavities of bones, has found, shortly afterwards, the metallic globules dispersed through the lungs and liver of the animal. After all fatal amputations, which have been followed by the formation of secondary abscesses, the membrana medullaris of the divided bone should be examined; in many cases it will be found inflamed, and otherwise changed, and its veins filled with pus.

Cruveilhier assures us that the commencement of the mischief, when it occurs after injuries of the head, may often be detected in the diploe of the skull. We are not always to expect to find the lining membrane of a vein inflamed, when its cavity contains purulent matter; and, if it be inflamed, we are to remember that the inflammation may have been subsequent to, and indeed caused by, the presence of the morbid fluid in its cavity. Pus, therefore, may exist in a vein, without being the product of a local phlebitis; and the only rational explanation of this occurrence, is to suppose that it has been absorbed directly from some abscess, or purulent deposit, or that it has been generated by the decomposition of the contained blood which has become arrested at the part. That blood at rest, whether within a bloodvessel, or which has been extravasated into the cellular tissue, may become converted into a purulent fluid has been satisfactorily demonstrated by Gendrin and others; and we have already alluded to the occurrence of pus in the centre of coagula within the cavities of the heart. It deserves to be noticed, that venous blood has a much stronger tendency than arterial to the change we are alluding to.

Admitting that pus may be absorbed directly from an abscess into the adjacent veins, we arrive at another difficulty in the pathological history of secondary abscess—to explain in what manner the absorbed pus acts in giving rise to these deposits. Dr. Nasse has made many experiments on the lower animals—by injecting pus into their veins, by fracturing their bones, and by retaining suppurating wounds open for a length of time, with the hope of throwing some light on this curious subject, but hitherto quite in vain. It is a point of dispute, whether secondary abscesses are ever formed without being preceded by inflammation in the part. The opinion of the older surgeons was, that there is a direct metastasis of the matter, and therefore, that the abscesses may be quite independent of any inflammatory process. This opinion has been adopted by several of the best modern pathologists, as Chaussier, Marjolin, Ribes, and Velpeau—all of whom positively deny the local or inflammatory origin of secondary abscesses. The reasons which they adduce in favour of their opinion are the following: the absence often of any traces of inflammatory action in the neighbourhood of the abscesses, the rapidity with which the purulent deposits sometimes take place, the circumstance of their being dispersed through an organ while the intervening tissue is not actually diseased—not to mention the obscure and indefinite symptoms which accompany their generation through life.

These arguments, although strongly opposed to the doctrine of local inflammation as being the cause of secondary abscesses, do not warrant our immediate assent to the rival doctrine, of the metastasis oi the purulent matter itself, from one part of the body to another at a distance. How are we to explain

the exudation, or secretion of the large globules of pus from the minute capillaries of the affected part? And why does such an exudation or secretion, if it is practicable, take place at numerous circumscribed spots in one or more organs at the same time? The prudent pathologist will hesitate, we think, to regard the development of secondary abscesses, as the effect of a mere mechanical translation of a fluid from one part to another.

The advocates for the inflammatory organ of secondary abscesses are numerous and respectable. Morgagni, Boyer, Rose, Lawrence, and Cruveilhier, may be enumerated among them.

Dr. Nasse agrees, to a certain extent, with those pathologists who regard the formation of secondary abscesses as the result of an inflammation developed in the parts affected—of an inflammation however not simple and uncomplicated, but accompanies, if not actually induced by a purulent vitiation of the circulating fluid. He supposes that, by the admixture of purulent matter with the blood, the latter becomes contaminated, and has a stronger tendency than in health to the deposition of its fibrinous portion. If the poisoning of the blood by the virus of glanders can, without any primary local phenomenon of disease, induce abscesses in different parts of the body, and if imperfect nutrtion, especially when this is associated with exposure to damp and cold, can generate a tendency to the formation of purulent deposits, what reason is there for wonder that a depravation of the sanguineous fluid from other causes may give rise to the same or similar effects? It is a well-known fact that, in cases of phlebitis, venæsection performed at any part however remote from the seat of the inflamed vein, is apt to be followed by an attack of phlebitis in the wound. Now this fact accords with the general position that diseases, in which there is any depraved assimilation of the blood, have a marked tendency to induce, upon the slightest and often without any appreciable cause, a similar morbid state in other parts distant from the seat of the primary lesion. This is the case with tubercles, cancer, fungus hæmatodes, and probably also with any local admixture of pus with the blood. We cannot indeed discover any cancerous or medullary matter in the blood, yet we know that there is a strong tendency to the development of the cancerous, &c. formative action in many parts of the body, near to, as well as remote from, the seat of the primary disease. Now, if we apply the same mode of reasoning to phlebitis, we may find a rational explanation of secondary abscesses without adopting the notion of a positive admixture of pus in the whole circulating mass, or of a direct metastasis of the pus from one region of the body to another. How the vitiation of the blood probably acts in giving rise to the development of secondary abscesses will perhaps be best understood by having our attention directed to the post-mortem appearances which, at the commencement of this paper, we indicated as appertaining to the first stage of their formation. It was there stated, that the early or incipient structural changes, as observed in the lungs and liver, consist in congested and discoloured patches, which have a great resemblance to parts in which there had been some time before an infiltration of blood. The form of these patches is generally sharply defined, in consequence probably of the morbid change affecting only one lobule or portion of parenchyma, to which a particular venous branch appertains. The cause of this congested state of distinct lobules or portions may be either an obstruction of the blood in the capillaries, or an absolute extravasation of it into the parenchymatous tissue — the former conjecture is the more probable. Now this obstruction we are disposed to attribute either to an inflammatory action, or to the coagulation of the blood in the small vessels, induced, it may be, by the unhealthy condition of this fluid.

If the blood is once obstructed in the capillaries, coagulation, to a greater or less extent, will take place in the neighbouring veins, and thence extend to the larger ones; this tendecy to coagulation being greatly increased by the vitiated state of the blood itself. With

or without inflammation of the lining surface of the veins, the contained blood becomes gradually converted into a puriform fluid.

This theory of the congestion of the blood-vessels, and of the subsequent formation of purulent matter in the affected part, does not apply so well to the case of the synovial membranes (often the seat of secondary suppurations) as to that of the parenchymatous viscera. It is to be remarked, however, that such articular suppurations are almost always attended with much more severe pain, and with more decidedly inflammatory symptoms, than secondary suppurations in other parts of the body. The character or type of the inflammatory action is very different indeed from ordinary arthritis—it has a peculiar disposition to terminate rapidly in purulent effusion.

M. Boyer, in one of the earlier numbers of the Gazette Medicale de Paris, has proposed a chemical rationale of the constitutional symptoms which usually attend the formation of secondary abscesses. He suggests that it is the ammonia contained in the pus, which exerts a noxious influence on the system. He found that pus, which has been purified by means of chlorine, may be injected into the veins of an animal with much less injurious consequences than when it has not been so purified. He recommends strongly the internal and external use of chlorine in typhus and in all diseases where the condition of the blood is suspected of being vitiated from the admixture of impure animal fluid.

Although friends to the adoption of a modified humoral pathology and of a cautious humoral system of therapeutics, we are not inclined to give our assent to the doctrine propounded by Boyer for the etiological explanation of secondary abscesses.—*Rust's Magazin für die gesammte Heilkunde.*

Remarks on the Proximate Cause of Gout. By Dr. Wendt, of Breslau.

To determine the essential characters, and genuine nature of gout, is much less easy than many physicians of the present time are inclined to believe. That it is a disease "totus corporis," not confined to one part or one system of the body, but affecting, although unequally, all parts of the body; that it is usually a sure sign or indication of an inflammatory state of the constitution, that its most common seat is in the smallest joints; that it is apt to induce in course of time a more or less abnormal state of the fluids, and a tendency to various lesions of the solids; —these are characters which make up a general and comprehensive description of gout, and probably a more correct one than can be conveyed in any short sentence, or condensed definition. In the excessive ardour of medical reform, some physicians of the present day have boldly announced that gout is nothing but simple arthritis or inflammation of the joints. This is a most unwise and dangerous doctrine: for, on the one hand, gout may exist without even affecting any articular cavity, and on the other, there may be the most severe arthritis without the slightest trace of genuine gouty disease being present.

In investigating the nature of gout, it is of importance ever to keep in mind that this is one of the diseases which may be truly and strictly congenital and hereditary, and therefore that certain persons have a peculiarly strong predisposition to its attack in some modification or another. This consideration alone might lead us to believe that the elements or gems of the disease are deeply and intimately interwoven with the frame, and that the ordinary existing causes of inflammation will not be sufficient to induce an attack of gout, unless the system of the patient be at the time predisposed to the specific morbid state or cachexia, with which it is always associated. Exposure to cold and damp are often sufficient to excite a paroxysm of gout, but never,

be it remembered, in a person whose habit of body is perfecly sound and healthy at time.

True therefore it is, that "neither simply checked perspiration is ever sufficient to cause gout, nor will the most complete diaphoresis ever cure it."

Patients have often been kept drenched in profuse perspirations for several days continuously, with but little relief to their distress, *unless the perspiration smells chalky*, or until Nature rids herself of the peccant matter, which is offending her. Cullen's doctrine that gout is dependent upon weak digestion has been, with various modifications, adopted by many of our modern physicians. Some have insisted much upon a disturbance of the power of chylification, and a consequent derangement of the assimilation of the blood, as invariable precursors of gout. But this is not strictly correct, and that admirable authority, Sydenham, has with great propriety described an 'arthritis fortiorum' —a form of the disease which indicates great activity of the digestive powers, and a plethoric and vigorous state of the body.

How often it happens that just before a gouty paroxysm, the patient has been in most robust health: eating, digesting and sleeping well, and presenting no irregularity or any symptom of approaching disease, except, perhaps that the urine is scanty, turbid, and of a deep colour and strong acid smell. This is the delusive state which Sydenham has aptly compared to the 'sunshine before the storm.' Weakness of digestion cannot surely be admitted as the exciting cause of gout, in such a case as this.

To understand the true nature of gout correctly, it will be necessary to make some general remarks on the cachexiæ, or diseases which are dependent upon some irregularity or disturbance of the assimilative and nutritive powers of the body.

Some cachexiæ originate from an abnormal condition of the blood (blutmischung); such as icterus, chlorosis, and scorbutus; others depend upon an unhealthiness of the white juices, and to this section may be referred dropsy, gout, &c. Whatever be the form of gout, we believe that the diseased action originates and consists in a tendency to the formation and the elimination of earthy matter from the system. This is in fact the 'causa efficiens morbi.'

The development and elimination of the earthy portion from the general mass of the nutritive juices, and the tendency which this has to become deposited in particular textures—these are the essential and invariable elements of gouty disease. The peculiar liability of the joints to be affected with gouty inflammation and depositions is owing probably to the circumstance of the earthy elements being held more loosely in the joints than in the other parts of the osseous system.

That gout at its commencement is usually attended with an inflammatory diathesis, is not remarkable, seeing that vascular excitement accompanies some of the forms or stages of other cachexiæ, as for example the 'hydrops calidus,' the 'chlorosis florida,' and the pyrexial periods of phthisis.

The various forms or modifications of gout, although all primarily and essentially originating in the same morbid state, viz. that of the formation of earthy matter in the system, depend chiefly on the condition of the nervous and vascular excitabilities at the period of the attack. Perhaps the most practically important division of the disease is into the two species, 'arthritis florida, sive fortiorum,' and 'a. atonica, sive debiliorum.' Gout may be either localized—the a. organica—or it may be flying about,—the a. vaga. When the gout-formation fixes upon any of the nobler parts, it is called 'a. retrocessa;' and that condition in which the process of earthy formation is going on, and in which there is consequently an excess of earthy elements in the body, without however any local deposition, or established inflammatory action, may be designated the 'a retenta.'

The gouty dyscrasis, when it falls chiefly on the eyes, is apt to induce cataract; when the valves and blood-vessels of the heart are the parts chiefly affected, angina pectoris or other forms of disturbed circulation and breathing

will be induced and the kidneys, when attacked with gouty disease, are apt to secrete an excessive quantity of uric acid and usually become inflamed, and in course of time disorganized. These forms of gout may alternate with, and they may supersede, and as it were, neutralize each other. A striking example of this occurred in the case of an old gentleman under Dr. Wendt's care. He had for several years been subject to severe attacks of angina pectoris, which had been gradually increasing to such a severity that his friends were often expecting to hear of his sudden death.

By a fortunate translation of the morbid process, renal calculi were generated, and, in the course of a few weeks, every symptom of stenocardina vanished completely.

In all gouty metamorphoses, the tendency to earthy deposition is more or less appreciable, but most distinctly so when arthritic abscesses are formed. Sanctorius alludes to the contents of such abscesses in these words: "phlegma gypseum molle liquidæ calci simile." Dr. Wendt relates the following striking examples. In two very gouty patients, large quantities of a white fluid, very like an emulsion of chalk, were discharged from the wrist-joints, which had a short time previously suppurated and burst. When carbonic or phosphoric acid was added to this white discharge, it became thick and almost concrete. The abscesses healed, and afterwards opened again, affording a similar white discharge to the former one. When there is no distinct deposition of gouty matter, in the joints or other parts, traces of earthy matters may very generally be detected in many of the secretions and excretions, and more especially in all critical discharges. The urine and the saliva, it is well known, are often, in these circumstances loaded with earthy matter hence the very common tendency to the formation of urinary calculi, and of incrustations about the teeth. In many cases, the perspiration has a distinct chalky smell (nach kalk riechende schweiss). Dr. Wendt alludes to a case where this phenomenon was very appreciable.

A patient who had long suffered from stenocardia (angina pectoris), was seized with a severe attack of arthritis, and during the continuance of the joint affections, all the thoracic distress vanished. During this very favourable "reconstruction" of so dangerous a malady, there has been a profuse perspiration, and it was noticed by all the attendants, that the perspiration had a chalky smell (kalkartigen geruch). Many of the features of gout indicate that it is a disease connected with an irregular and unhealthy (whether from a mere excess, or from a change in properties) condition of the earthy elements of the body, and with a separation of these elements from the general mass of the organization. Not to mention again the characters of actual gouty deposits and of critical evacuations, we may allude to the extreme obstinacy, in general of the disease—the difficulty of curing it, and the marked tendency which it has to return, even although it may have been superseded, as it were, for a time by some vicarious disease, such as hæmorrhoids or leucorrhœa. As age advances, the disposition to gouty disease certainly increases: perhaps this may be attributed to the greater tendency to the formation of earthy matter in the system, and to the lessened activity of the eliminating organs.

Dr. W. alludes to the old, and still popular belief, that gout is, on the whole, rather favourable than otherwise to longevity. He is not inclined to go quite so far as Erasmus and Cardanus, and write an eulogy on gout; but often (says he) he has had occasion, in his own practice, to remark the number of grey-haired veterans among the "podagrists"! The diseases to which they most frequently fall a sacrifice are angina pectoris, hydrothorax, asthma, and phthisis pituitosa.

The treatment of gout by the best German physicians is, we are informed by Dr. Wendt, directed rather to prophylatic than to directly curative means. A severe paroxysm of gout

may be mitigated, and perhaps shortened—but it cannot be arrested, or suddenly cut short. The proper termination of each paroxysm is denoted by the elimination of the superfluous earthy matter, either in the form of gouty deposits, or carried off by some critical evacuation. Wisely has Sydenham cautioned the physician against over-officiousness in trying to quiet the pains of gout: the pains, says he, are "amarissimum Naturæ pharmacum."

The most important indications are, to assist Nature in relieving herself of the peccant matter which is annoying her—in correcting the morbid diathesis—in the removal of all complications which may supervene, and in counteracting any tendency to seizures of internal organs.

There cannot therefore be any uniform, far less any specific treatment of gout. It must be modified and regulated by the circumstances of the case, by the constitution of the patient, and by the curative indications which Nature may happen to point out. Dr. W. says that as for himself he has never yet *cured* a severe case of genuine gout: the paroxysm ceased, when the product of the dyscrasis was separated from the system, and all that he was ever able to do, was simply to employ prophylactic means against future attacks. Whatever tends to preserve the healthiness of the processes of assimilation and sanguification, (die normalität der mischungsverhaltnisse), and protects and promotes the firmness and solidity of the tissues, will assist materially in fortifying the body against the gout. A well assorted diet may do much; but regular and regulated bodily exercise will do more.

Gout is truly a disease of towns; it is but little known in the country, except by those who carry thither the luxury and idleness of town lives. Some old English author has aptly remarked that ' gout is the disease of those who will have it.' Even those who are strongly predisposed to it, seldom suffer from its attacks, as long as they live an active and an abstemious life. Dr. Wendt powerfully recommends the use of the vapour baths, as used so commonly in Russia. Some of his countrymen have lately proposed to treat gout by making the patients drink enormous quantities of hot water, with the hope of fairly *washing out* the peccant matter from the system. Dr. W. very judiciously prefers the use of *external*, we that of *internal* hot baths.—*Rust's Magazin für die gesammte Heilkunde.*

Staphyloma treated by Excision of the Cornea, and not followed by Destruction of the Eye.

A young girl had suffered from a severe attack of purulent opthalmia of the right eye, which had been followed by complete staphyloma. The cornea was quite opaque throughout, and very prominent, so that the eyelids could not close over it, when the patient was asleep. Numerous enlarged vessels extending from the sclerotic coat ramified on the surface of the marbly-blue cornea. As is usual in cases of staphyloma, this little girl had got into the habit of stooping forwards, and leaning the head towards the affected side.

Dr. Buck of Lubeck, under whose care she was placed, recommended that the projecting part of the cornea should be cut off, expecting that by this operation the contents of the eyeball would be discharged, and that the patient might then wear an artificial eye. Dr. B. with one sweep of a cataract knife, sliced off the cornea to within a line's breadth of its attachment to the sclerotic.

The aqueous humor with some drops of blood flowed out; and immediately afterwards the eyeballs closed together with a spasmodic firmness, so that nothing else escaped. On examining the detached cornea, it was found to be of a leathery consistence; its inner surface was as smooth as its outer, and therefore there could have been no adhesion of the iris to it, as is the case most frequently in cases of staphyloma.

The patient was kept quiet for a fort-

night in a dark chamber. At this time on removing for the first time the bandage from the sound eye, a sharp pain was immediately felt in the diseased one.

By the end of the third week, she could open both eyes without any annoyance, and then it was first discovered that a membrane of plastic lymph had been formed in the place of the removed cornea. This membrane was, as might have been expected, flat, and being of a blueish white colour, the iris could not be easily distinguished through it. The adhesion of this membrane to the edge of the remaining portion of cornea was so close and intimate, as to be not distinctly recognizable.

After some months, the patient's power of vision was somewhat greater than it had been before the operation. She could distinguish, though imperfectly, the profile of large dark objects placed before her. The form of the eye-ball, with the exception of its anterior face which was permanently flat, remained unaffected.—*Rust's Magazin.*

CONTAGION OF THE PLAGUE.

M. Clot Bey, the distinguished surgeon of the Pacha of Egypt, has addressed a letter to M. Chervin, (who is one of the most vehement of anti-contagionists,) on the plague, which raged at Alexandria from Nov. 1834 to March of last year. During that time upwards of 20,000 persons died from it. M. Clot observes, that almost all the medical men in Alexandria and Cairo are decided contagionists, and are so much impressed with fears of the communicability of the plague by contact, that when they visit their patients, they put on dresses of oiled silk, carry long sticks in their hands, and examine the sick at some distance from the bed-side. They do not believe that the plague is ever diffused by merely epidemic agency. Other physicians, less afraid, "ne s'encapuchonnent pas;" but they avoid touching the skin of their patient, and feel the pulse either through a tobacco-leaf, or after having wetted their fingers with oil, or vinegar; while a third set, uncertain what to think, and more hazardous than the rest of their brethren, do not take any further precautions, than what are usual after visiting cases of typhus and other fevers. The plague, of which M. Clot speaks, appeared at Alexandria in November, and in Cairo towards the end of December; but it had not assumed an alarming character, until within a fortnight previously to his writing to M. Chervin, about the middle of March.

The prevailing belief among the professional men, as well as among the public in general, was that the pestilence had been imported. This might have been the case, but certainly it was not satisfactorily proved; and as for myself, (M. Clot) I must confess that I am inclined to attribute the invasion rather to epidemic influences, than to the direct introduction of any infected fomites.

M. Clot admits that some indeed of the facts which he witnessed tended to shew that the disease may be transmitted from one person to another; but that the mass of them was decidedly unfavourable to this idea. He alludes to the case of himself and of five other medical men, who were in the daily habit of touching and examining the sick, of spending several hours at their bed-sides, and of dissecting the corpses in a small contracted place.

The medical students also and the nurses were in frequent, nay, even continual intercourse with the sick, and yet "jusqu'à present aucun accident n'a en lieu." Another argument may be drawn from the circumstance that the disease did not break out at Cairo, for nearly two months after its appearance at Alexandria, although there was a constant communication between these two towns. The crews too of some of the ships in the bay of Alexandria were attacked with the disease, although all intercourse with the shore was most rigorously prevented.

In conclusion, M. Clot observes that the sanitary regulations which were enforced, appeared to him rather to promote than to obviate the spreading of the pestilence, not to mention the very unnecessary interruption which they caused to traffic, and business.—*Archives Gen.*

III.

CLINICAL REVIEW.

Guy's Hospital.

On Diseased Conditions of the Cerebral Arteries. By Dr. Bright.

Guy's Hospital has followed the example of its neighbour St. Thomas, and commenced a series of Hospital Reports which bid fair to benefit the profession at large, while adding to the reputation of the medical officers themselves. The publication is under the care of Messrs. Barlow and Babington, and no reporters' names are given, as in the contemporary work from the other hospital.

The first paper is from the pen of that clever and indefatigable physician Dr. Bright. The subject of investigation is obscure, and much of conjecture is necessarily mixed up in the series of cases given by our author—there being but few proofs exhibited by dissection. Dr. B. remarks, that patients very often dwell on one particular symptom, namely, a diffused pain over the occiput—often distinctly referred to the occipital nerve or a branch of the second cervical. The frequent occurrence of this symptom seems to Dr. B. to stamp it with sufficient importance to give it a claim to our attention in a diagnostic point of view. He thinks this symptom is often indicative of a diseased state of the cerebral arteries. A couple of cases will best illustrate this supposition.

Case 1. "A gentleman, past the meridian of life, after exposure, four years ago, first became the subject of an attack, which, by the description, appears to have been apoplexy from vascular congestion. Since that time he has been subject to various nervous affections;—vertigo; pain in the head, accompanied by sickness; palpitation of the heart; muscular weakness, particularly of the lower extremities; confusion of mind; and, latterly, a slight attack of hemiplegia of the left side, from which he has completely recovered. Still, however, the symptoms recur; and, amongst the rest, the most frequent complaint he makes, is, of what he calls a rheumatic pain at the back of the head, which he refers precisely to the space behind the mastoid process, spreading thus over the occiput. This pain sometimes occurs on both sides, but more frequently upon the right. He is, at times, exceedingly irritable, and his spirits very low; after which, he says, 'I feel completely knocked up, and have much pain in the back of my head, like a rheumatic pain, generally at the same spot, the right side of the back part of the head."

Case 2. A gentleman approaching the fiftieth year of his age, consulted me, a few years ago, for a pain, which he considered muscular, in the back of the head; an occasional feeling in the chest, as if the heart ceased to beat; and several nervous symptoms. I found that he had previously suffered one or two seizures, in which giddiness and momentary loss of recollection had occurred. I lost sight of him for a year or two; and when he again consulted me, I found that in the interval, he had experienced a serious attack of paralysis of the portio dura, on the left side; from which he was then very gradually recovering. But, amongst the other symptoms, that on which he laid the greatest stress, was his headache; which he described as being of two kinds; one occurring occasionally, which he considered common headache; the other much more frequently, and consisting of a pain in the posterior part of the scalp; and which, he said, he scarcely knew whether to consider as rheumatism or as headache. He pointed out the place occupied by this pain, most minutely; placing his finger just behind the mastoid process, and carrying it along the occiput."

There is probability, though not certainty, in the foregoing conclusions. In the following case, dissection came in to the support of theory.

In April, 1835, Dr. B. visited a lady, aged 56, labouring under symptoms of head affection, of nine months' duration. The headaches were attended by nausea, occurring occasionally till Dec. 1834, when she was salivated. Ten weeks previously to being seen, she had a suspicious attack of hemiphlegia. On the 20th April, she came under treatment.

"She then complained of an obtuse pain at the top of the head, noise in the ears, and want of sleep; there was a wild expression in her countenance, and hesitation in her speech: the action of the heart was occasionally violent; pulse from 90 to 100, full and hard: tongue slightly furred: appetite not much impaired: continual nausea. The treatment adopted consisted of bleeding, which was twice repeated to the extent of 12 or 15 ounces each time; leeches to the temples, perpetual blisters to the nape of the neck and behind the ears, evaporating lotions and free purging. The blood first drawn was not at all buffed; but the heart became irritable after its loss, beating with great force and frequency as she recovered from an approach to syncope: the blood drawn at the second bleeding was much cupped and buffed. The pain was not at all mitigated by the remedies, nor was the pulse much reduced in strength; and she only obtained slight relief by the use of extractum lactucæ, which was taken at bed-time, and occasionally in the morning."

On the 14th May she was reported as better, but still complained of pain near the occiput, corresponding with the egress of a large branch of the second cervical nerve. We need not trace the progress of the disease, or the list of remedies employed. She had two epileptic fits before she died.

There were several patches of fibrinous lymph on the external surface of the dura mater, the result of former inflammation. The whole of the vessels at the base of the brain were more or less diseased, being dilated, semi-opake, brittle, and studded with spots not quite ossificd. Some other of the cerebral arteries were also diseased. The pons varolii was harder than usual. There was a small clot of blood, the size of a pea, in the right lobe of the brain. The pericardium was loaded with fat, as also the heart, which was hypertrophied in the left ventricle.

Our author now ventures one step farther in the thorny path of diagnosis, and assumes, "that, in those cases where disease of the vessels is attended with unusual symptoms of lethargy, and the superficial pain of occiput is less observable, it is, in his opinion, probable that the disease has been situated chiefly in the internal carotids and their branches."

Dr. B. then relates a case where lethargic symptoms ran to a great degree, and for a long time, and where the carotids were found unusually diseased—the vertebrals being little altered.

The sixth case in this report was a gentleman aged 63, who had suffered for many years under cerebral affections, marked by pain and uneasiness diffused over the head—occasional coma, &c. relieved generally by bleeding and purging. After a kind of apoplectic seizure some hemiplegia was left, with confusion, of thought. Another apoplectic attack carried him off, though slowly.

There was found a large quantity of serum under the arachnoid, which was thickened. The sulci were full. The brain was softened in several places. The lateral ventricles were distended with water. The vessels at the base of the brain were extensively diseased, by means of thick lumps of atheromatous deposits. The carotids and vertebrals were both diseased. Since his death, Dr. B. learnt that this gentleman was affected by lethargic somnolency for 12 years before he died. After detailing two or three other cases, Dr. B. sums up thus.

"The cases which I have thus brought together may be considered as presenting several of the different forms which disease of the brain assumes, in consequence of a morbid change gradually taking place in the arteries. Probably, while the vessels still remain entire, although diseased, they may give rise to general pain in the head internally;—and to pain, local or diffused, external to the skull;—or lethargic somnolency

may be the prevailing symptoms :—or apoplectic seizures may occur from simple congestion ;—or, by some process, possibly the interruption of the circulation in some part of the brain, a softening of its structure may be produced ;—or serum may be thrown out, either into the ventricles or under the arachnoid. When the vessels yield, it often happens, that single branches giving way, the shock upon the nervous system is almost momentary, or of short duration ; but probably some slight paralysis remains ; such is the origin of the small cysts and cavities we occasionally discover. Should a larger vessel yield, or, by its diseased condition, cause a greater burden to be placed upon its branches than they can bear, the overwhelming apoplexy is the result. Now, of all these states, the foregoing cases are calculated to afford examples and illustrations."

In the present state of our knowledge we can only attach probability and not certainty to the inferences which Dr. Bright has drawn from the cases which he has detailed, leaving the question open to further enquiry and investigation.

Permanent Contraction of all the Extremities. Numerous Cartilaginous Deposits on the Arachnoid of the Spine.

This is a very curious and distressing case related by Dr. Bright in the first number of Guy's Hospital Reports. A female aged 28, was admitted into Guy's Hospital in Sept. 1835, incapable of standing or assisting herself. Her hands were contracted and bent downwards—her feet extended, and her toes bent backwards. The shoulder joints were flexible—the hands morbidly sensible—no tenderness,on pressure, along the spine—urine and fæces under control—no pain in the head—mind clear —bowels regular. Shortness of breath and symptoms of chronic pulmonary affection. She stated that, three months previously she had slept in a damp bed, and to this she ascribed her malady. Rapid disease of lungs came on, of which she died in about two months.

The brain and spinal cord only were examined. A considerable effusion was found under the arachnoid. The brain was of healthy consistence, and free from disease. The theca of the spinal cord was thought to be a little opake—the whole arachnoid was transparent. "The only very obvious diseased appearances was the deposite, externally to the arachnoid, of a great number of flat cartilaginous bodies, looking like small portions of tallow dropped into water. Fifty or sixty of these were counted. They were situated chiefly at the lower part of the chord, and the commencement of the cauda equina. The vessels at the lower part of the spine were decidedly congested."

This is an obscure case, and it is very difficult to say whether the morbid appearances found on dissection were really the cause of the contractions of the limbs.

An Essay on the Symptoms and Diagnosis of Pericarditis. By Dr. Hughes.

This Essay was read before the Physical Society of Guy's Hospital, and is now published in the first number of the Hospital Reports emanating from that celebrated school. Dr. H. informs us that this Essay is the result of "constant attendance upon the sick, and a close examination of the disease itself. These are the very best recommendations we can have.

He thinks it remarkable that a disease now so common as rheumatic paricarditis is, should have been unknown to the profession 30 years ago. It is so—but probably this, as well as some other diseases, have increased in frequency since the begining of the present century. All diseases of the heart have, unquestionably, augmented in number and intensity since the French revolution. Even to this day, our continental neighbors seem to have very little idea that pericarditis owes its origin generally to rheumatism.

The diagnosis of pericarditis has hitherto not been settled. It has been found, on dissection, where it was not

suspected in the living body—and it has been confidently predicted before death when no trace of it was discovered *post-mortem*. Our best pathologists are not quite in accordance as to its diagnostic marks.

"At one time, we hear of, and witness, excessive præcordial anxiety; at another it is scarcely observable by either the patient or physician; sometimes, we find severe local pain; but sometimes, as must be known to all who are moderately acquainted with it, the disease exists, even in its acutest form, without any. This pain is by some found to be increased on pressure, in almost all instances; while, by others, tenderness on pressure is said to be very rare. Here we observe extreme dyspnœa orthopnœa, and thoracic distress —there they are almost entirely wanting; in one case we find a strong sharp, thrilling pulse; and in another, a small, weak, irregular, and unequal one; which, by this author, is said to appear only during the progress of the complaint; and by that, to be present, from the very commencement. At one period, we are told that the hardest pulse known is present in pericarditis; and in a few years we are informed, by the very same man, that a small weak, and intermitting one is a principal characteristic of the disease. This writer acquaints us, that here the stethoscope fails altogether, or affords but little aid; while by that we are informed that percussion and auscultation are the best, and sometimes the only means, of attaining a correct diagnosis. Sometimes the sufferer cannot lie on the right, sometimes not on the left, side; in this case, only on the back; and in that, not at all. Some recent writers, indeed, assert, that the difficulty of ascertaining the presence of this important affection is entirely removed by modern discoveries and observations; and one of the latest affirms, that pericarditis may be distinguished with almost as much facility as pleurisy. I am still persuaded, that cases occur in which no characteristic symptoms are observable, or at least likely to be observed; that is, that pericarditis occasionally exists under circumstances, in which there appears nothing to direct the attention to the heart, and which, therefore, though some physical signs might, if sought after, be positively discovered, there are no indications of the inflammation of its investing membrane. I think, therefore, I am still justified in saying, that the disease is sometimes present without symptoms; that some cases are only to be discovered by negative signs (*par voie'd exclusion*); and that there are others, and those a great majority, which are to be recognized by indications of a distinct and positive, though variable, character."

Of those cases in which there are no signs, positive or negative, Dr. Hughes acknowledges that he has seen none. Yet such cases are recorded by Latham, Stanley, Andral, Rostan, &c. In these cases, it would appear that the pericarditis was masked by affections of the brain and other organs—and probably the attention of the practitioners was drawn off from the real to the apparent seat of the disease.

"The next set of cases are much more common. They are generally marked, simply by a feeling of distress and oppression at the præcordia, increased on motion and speaking; incapability of lying down, dyspnœa, dry cough, restlessness, a countenance expressive of suffering and anxiety, and a frequent, small, and occasionally intermittent pulse. Such symptoms, it is evident, may, and frequently do, appear in serious affections of the lungs and pleura; in extensive latent pneumonia, for example, or copious and double pleuritic effusions. These cases are to be distinguished only by a diligent examination of the chest, by percussion and auscultation. It is only by first proving the absence of dulness on percussion, increased resonance of the voice, and crepitant rattle indicative of pneumonia, or of sharp pungent local pain, dulness, and the peculiar shrillness of the voice, called ægophony, characteristic of pleurisy, that we shall be enabled to pronounce the disease pericarditis. We may then be able, by a more minute investigation of the heart, to confirm our opinion; and, in the progress of the complaint, as fresh

symptoms arise, or old ones become modified, to remove any remaining doubt. These cases are usually insidious in their approach, doubtful in their origin, slow in their progress, and uncertain in their termination.

The next set of cases, or those in which pericarditis may be discovered by positive and well-marked characters, are fortunately, by far, the most numerous. They are, however, as it has long appeared to me, clearly divisible into two groups; which usually arise from different causes; are marked by different, and, in many instances, even opposite symptoms; are followed by different results; and present different morbid appearances after death. This distinction, I believe, arises from the varying nature of the inflammatory effusion: for not only is it true, that, as observed by writers on this subject, solid plastic matter may be first effused, and, in the progress of the complaint, sero-purulent fluid may occupy its place; but it is likewise true, that the effusion may be, in a great degree at least, solid during the whole course of the disease; and that it may be purulent, or sero-purulent, from the very commencement It is, moreover, from these facts having been lost sight of; from this distinction not having been noticed, or sufficiently borne in mind; from the effusion, at one time solid, and at another fluid, not having been regarded as producing different and often contrary symptoms, that has, I think, arisen — and that, up to the present time, has continued—a great portion of the uncertainty, obscurity, and confusion, connected with this complaint. Now, though some authors, as Dr. Hope and Dr. Mayne, refer to the diversity of symptoms occasionally arising in the course of the disease from the change of the inflammatory deposition, I was not able to find any notice taken by authors of the distinction alluded to, as marking different complaints, till, a few months ago, I perused the admirable papers of Dr. Latham, in the Medical Gazette, and the essay of Dr. Stokes a few years since, in the Dublin Medical Journal: each author makes a distinct, though brief reference to the varying aspect of different cases as arising from this cause. While, then, I must confess that I was rather disappointed at finding myself, in some degree, forestalled on a point that had engaged my attention for some years, I felt gratified at seeing my own observations confirmed by the practical knowledge and extended experience of the gentlemen just mentioned.—In those cases which are attended with sero-purulent effusion, the symptoms are severe, from the very commencement; they rapidly increase, and, unless checked by prompt and active treatment, speedily terminate in death. The inflammatory fever, from which the patient suffers, is active only, for a short time, and quickly assumesan asthentic character, or altogether disappears. He sometimes complains of acute pain, occasionally shooting to the shoulders and back, but more frequently of a severe burning heat in the region of the heart, with a sense of weight and intolerable oppression at the præcordia: he is unable to lie upon either side, and sometimes even upon the back, but is obliged to sit erect, or incline forwards, with hand pressed to the affected side; though restlessness, and vigilance are constant, yet, whatever be the position, it is constrained, as slight motion threatens suffocation, and any attempt, or disposition, to sleep is quickly followed by imminent danger of choking. The respiration is hurried, gasping, and thoracic; there is a frequent feeling of faintness, and sometimes sincope itself; palpitation, though almost continual, occurs in increasingly violent paroxysms; the countenance is expressive of distress, anxiety, and fright; the alæ nasi are distended, the eyelids widely separated; the face is bedewed with perspiration: soon the lips and cheeks acquire a purple tint, and the extremities become cold and clammy. The jugulars are distended, and undulate; the carotids doing scarcely more, as the pulse is very small, frequent, intermittent, irregular, and unequal. The impulse of the heart is generally much decreased, and often scarcely perceptible; the hand placed over it being sensible merely of a diffused, variable,

and undulatory motion, with an occasional strong beat: the sounds are distinct and low, but usually soft and pure. The rythm is in the highest degree confused. On percussion, the natural dullness of the region is found considerably augmented, both in extent and degree, perpendicularly, as well as transversely; and, after a short period, a fullness or projection is said to be observable; a symptom which, I must confess, I have not hitherto witnessed in acute pericarditis; though, in the chronic form of the complaint, as well as in hydropericardium, it is, I believe, not uncommon."

When the above symptoms have *suddenly supervened*, we may confidently predict that pericarditis, with considerable effusion, has taken place. These things generally occur in weak constitutions. The disease may be confounded with inflammation of the præcordial and diaphragmatic portion of the pleura; but by careful attention to the symptoms a discrimination may be made.

In the other group of cases, the disease is more slow—the symptoms less alarming—and the termination more favourable. The patient may live for weeks, and then recover, even when little or nothing has been done in the way of remedies. The fever is sthenic, the skin hot, and the face flushed. The præcordial pain is more acute, and is usually increased on pressure or coughing. The patient cannot lie on the left side, but reposes easily on his back. The respiration is frequent, and chiefly thoracic, but without heaving or labour. He moves and talks without inconvenience, and his features are unaltered. The pulse is frequent, tense, and jerking, but regular. The normal præcordial dulness is not increased. The impulse of the heart is sharp, but not strong and heaving, as in hypertrophy.

"Now, it must be obvious to all, that the symptoms last related are extremely different from, and in many particulars opposed to, those previously mentioned; yet they are the true and genuine symptoms of pericarditis with solid or plastic effusion; symptoms, moreover, which are sufficient to distinguish it, not only from that with serous, sero-purulent, or purulent effusion, but also from every other complaint, and thus to render clear the diagnosis of this form of the disease. It is true that the dry or plastic form of pleurisy presents the same frottement or rubbing, &c.; but an obvious mark of distinction exists in the synchronism of the one sound with the action of the heart, and of the other with the respiratory movements.

"Now, according to my own observation, the pericarditis, that so constantly accompanies, or follows, rheumatism affecting young subjects, belongs uniformly to the latter, or dry form of the complaint; though I am aware that a few cases, related by authors, sufficiently prove that it is not universally so. Still, taking a view of the cases upon record, or any separate portion of them, and examining them with reference to this particular point, no one can, I think, fail to observe, that the number in which rheumatic pericarditis has been accompanied by fluid, and particularly by sero-purulent effusion, is extremely small."

Dr. Latham, in his lectures, has alluded to this solid effusion, in the following words:

"In the pericarditis that accompanies rheumatism, the symptoms during life are those that have been mentioned as strongly indicating the predominance of the solid over the fluid products of inflammation; and here dissection after death uniformly discovers solid lymph upon the pericardium, with very general or complete adhesion."*

Our author thinks that the "*bruit de soufflet*," so early in its appearance and constant in its duration, arises from inflammatory thickening of, or deposition on the fibrous tissue surrounding and entering into the composition of the valves of the heart—coincident with, or perhaps preceding the affection of the external membranes. In this he differs from Hope and Stokes; but we think it unnecessary to discuss this point. The following are the conclu-

* Lectures in the Medical Gazette.

sions of our author—and the conclusion of the paper.

"1. Pericarditis occasionally, though rarely, occurs without any obvious, sometimes with only negative, but most frequently with positive and well-marked symptoms.

2. The cases, with characteristic signs of which the diagnosis is not difficult, are of two kinds which are attended by different and even opposite symptoms, and generally followed by different results.

4. This difference of character depends upon the nature of the inflammatory product; which is fluid in the one, and in the other, for the most part solid.

4. The cases with fluid effusion are generally rapid in their course, and fatal in their result; while those with solid effusion often continue for a long period, and the patients frequently recover, when little or nothing is done for their relief.

5. Though generally continuing of the same character during the whole course of the acute complaint, yet, as the nature of the effusion may change in the progress of the disease, these different sets of symptoms may both appear, at different times, in one and the same case.

6. Rheumatic pericarditis is almost universally accompanied with solid effusion, pain in the præcordia increased on pressure, regular and sharp pulse, and *bruit de soufflet*.

7. This *bruit* is, in these cases, probably dependent on inflammatory thickening of the valves, or of the fibrous tissue connected with them."

On the first blush, a formal Essay on pericarditis, which had been read and discussed in a medical society, seems rather oddly placed in a volume of hospital reports; but the surprise vanishes when we find that the facts on which the Essay rests have been collected within the walls of the institution, and may, therefore, be properly considered as part and parcel of the practice of it. There can be no doubt that this Essay proves the author to be a gentleman of accurate observation, and though he will seem to have refined a little, his conclusions deserve the respectful attention of the profession.

ST. THOMAS'S HOSPITAL.

CLINICAL REPORTS. By J. SOUTH, Esq. Assistant-Surgeon.

We noticed these reports in our last Number, but we had not time nor space to complete our acconnt of them. We may now state that the pamphlet, for it is one, consists of 118 pages, and that it contains eleven reports, on the following subjects:—An Introductory Clinical Lecture, delivered by Mr. Travers—Syphilitic Eruptions, treated with Hydriodate of Potass—some Cases of Wounded Arteries—Extraction of a broken Catheter from the Bladder, by the Urethra—Mortification of the Hand and Forearm, following Contusion—Dropsy, terminating in profuse diuresis—Retention of Urine, arrising from Gonorrhœa—simple Fracture of the Leg, followed by Loss of Motion of the Right Side of the Head and Face, and of the Arm, from Deprivation of Stimulus—Hydrocele treated by the Seton—Observations on Delirium Tremens, by Dr. Roots—Absorption of a portion of the Cranium and Cerebral Disorder, from a Contused Wound.

Such are the contents of the pamphlet before us. Five out of the eleven reports were analysed in our last Number. We have not space for the whole of the remainder at present, but shall select the following:—on wounded arteries—extraction of a broken catheter from the bladder—retention of urine from gonerrhœa:—fracture of the leg succeeded by loss of motion of one side. The cases of dropsy and of mortification of the hand and forearm must be deferred for our succeeding Number.

I. TWO CASES OF WOUNDED ARTERIES.

CASE 1.—*Wound of the Brachial Artery in Venœsection.*

A married woman, aged 25, was bled

on the 3d of March, 1834, whilst pregnant, and in the operation the brachial artery was wounded. She lost eight or ten ounces of blood, when she became faint and extremely hysterical. Soon after her admission, a ring tourniquet* was put on so as to compress the artery near the insertion of the coracobrachialis; a firm compress, wetted with cold water, was applied over the wound; the limb bandaged tightly from the fingers to the tourniquet, and the arm elevated, so as to favor the return of the blood to the heart. The whole limb was enveloped in flannel. She was ordered to take *Ammon. carb. ex Mist. camph.*, if the hysterical affection should continue.

A dose of the ammonia had the desired effect, and nothing of consequence occurred until the 7th, when, the ring tourniquet being found to slip, a common tourniquet was substituted for it. In changing the compress and bandage, a tea-spoonful of healthy pus made its escape from the puncture. She had previously complained of pain in the arm, which this discharge relieved. Some simple dressing was applied; over it a soft compress of lint; and the whole secured by a slight bandage. A common arm-splint was placed on the under surface of the limb, to keep the arm extended.

There was some pyrexia, and the bowels were confined. These symptoms were relieved by appropriate remedies. On the 8th, the tourniquet was slackened considerably, yet no hæmorrhage ensued. On the 10th, the tourniquet, producing great pain, was removed altogther. The wound was granulating. We need not say more, than that the wound healed perfectly: on the 10th of April, the artery could be felt pulsating in its natural situation, and to all appearance in its natural state. On the 16th the patient was dismissed cured.

The following short clinical remarks by Mr. Tyrrell are highly deserving of attention.

"I have seen the patient frequently since; and she can use her arm without difficulty, even in heavy work. There is no appearance of disease of the artery or veins. This is the fifth case of puncture of the brachial artery in bleeding which I have treated on the plan and principle here described, and in every instance has there been a successful result; no uneasiness, no varicose aneurism, no aneurismal varix forming, but the limbs apparently as perfect as if such accident had not happened. In one case I had an opportnity of ascertaining the effect of the treatment several weeks after the cure had been completed. A patient, under the care of one of our physicians at St. Thomas's, was the subject of some organic cardiac disease, for the relief of which venesection was ordered, and in performing this operation, one of my dressers punctured the brachial artery; I was sent for, and adopted the treatment prescribed in the foregoing case, and with success. Some weeks after, the patient died suddenly in the hospital, when I carefully examined the arm, and found that the median vein had its canal obliterated for half an inch above and below the puncture; it was adherent to the artery, the wound of which was firmly united, and its calibre perfect. The parts wer removed, and are preserved in the museum of our hospital."

CASE 2.—*Wound of the Radial Artery.*

A man wounded the radial artery at

* The ring tourniquet consists of a metal ring, having a diameter larger than that of the limb to which it is to be applied, and a width of about an inch; the circumference is tapped at one point, so as to admit a screw, to the inner extremity of which a pad is fixed, and to the outer end a small handle to turn the screw with, by the action of which the pad can be carried to or from the centre of the circle. When appplied, this instrument makes pressure only on two parts; by the pad on the site of the artery, and by the portion of the ring immediately opposed to the pad, on the surface of the limb directly opposed to the position of the artery: thus it does not interfere with the lateral circulation.

the wrist with a penknife. He arrested the hæmorrhage by means of pressure until he arrived at the hospital. There pressure was made by cork upon the wound, and compresses and bandages were applied to it. The pressure occasioned pain and œdema of the hand, and when the compression was lessened six days afterwards, bleeding again occured. Fresh pressure was consequently necessary. The patient, was not dismissed, for the wound was not quite healed, till nearly a month after the accident.

This was evidently bad practice, and Mr. Tyrrell admits that it was so.*

The artery, situated so superficially, should have been secured at once above and below the puncture. But Mr. Tyrrell points out what he deems the best method of treating the wounds of arteries deeply seated, and difficult to be got at by an operation. The principle, a very rational one, consists in arresting or diminishing the flow of blood to the injured vessel, by pressing on the trunk or trunks communicating with it; in keeping the wounded parts carefully adapted by moderate pressure; in preventing venous congestion, by position and support of bandage, and in forming the adhesive union by perfect quiet. To effect a cure, it is necessary to persevere in the treatment for two or three weeks.

We think these brief suggestions well worthy of attention. We have no doubt that, in many instances, compression of wounded arteries proves useless or injurious, only because it is improperly applied. There is no reason, abstractedly speaking, why the fine punctured wound of the brachial artery inflicted by a lancet should not heal. In Mr. Tyrrell's cases, and in several which have been published by Mr. Colles and others, the wound, under appropriate pressure, *has* healed. The too frequent failures are owing, we are confident, to the trepidation or unskilfulness of the surgeon.

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* The patient was, in the first instance under the care of the dresser.

II. EXTRACTION OF A FRAGMENT OF CATHETER FROM THE BLADDER, THROUGH THE URETHRA.

The following case is creditable in the highest degree to Mr. Tyrrell. It well deserves to be recorded.

Case. A man aged 40, who had for some years suffered from stricture, introduced into his bladder a catheter, which was so worn and weak at the curve as to have been soldered there. The instrument met with some obstruction at the bulb, and broke at the weakened part. The fragment could not be withdrawn, and the man set out from Reigate to St. Thomas's Hospital, walking a considerable part of the distance. When admitted, he did not suffer very much. Mr. Tyrrell was sent for, and the following is his own account of what he found and did.

"On passing a sound, I discovered the piece of catheter lodged at the fundus of the bladder, transversely; its extremities being embraced by that viscus, so as to be held with some firmness. I disloged it by passing the end of the sound beyond it, and, drawing it forwards, moved it to the lower part of the bladder behind the prostrate gland; where by sounding I ascertained that its position was still transverse. From the freedom and extent to which I could move the sound, I concluded that the bladder contained several ounces of urine, and that it was sufficiently distended to afford good opportunity for conducting the plan I had decided to adopt for extracting the piece of catheter.

The patient was placed on a bed in a half-sitting posture, with his thighs semiflexed; the sound was withdrawn, and I then introduced one of Weiss's instruments for extracting small calculi which was nearly straight, and had a strong spring. By careful examination with it, I discovered that the extremity of the foreign body towards the patient's right side was free, and that the other was covered with the fold of the bladder. After several unsuccessful attempts, I succeeded in seizing the free extremity with the instrument, and, by withdraw-

ing it very cautiously, I brought the piece of catheter into the urethra, when the forceps slipped from it. I immediately introduced my finger into the rectum, for the purpose of compressing the uretha between the foreign body and the bladder, so as to prevent any retrograde movement of the former. This being secured, I again introduced the foreceps into the urethra; and in the first attempt caught the piece of catheter, and drew it out.

The portion of catheter removed, measured exactly three inches in length, and was of the size of No. 10 of Weiss's gage.

The examination and operation together occupied about twenty minutes."

A dose of opium, and one of castor oil were all that were required. Three days after his application at the hospital he was dismissed well.

This case is deserving in a high degree of the attention of our surgical readers. As Mr. Tyrrell observes, there is probably no other instance on record where a portion of eatheter has been thus extracted from the bladder. At all events surgeons remembering this case, should hesitate before they have recourse to the lateral operation of lithotomy, for the removal of bodies of this description.

III. RETENTION OF URINE ARISING FROM GONORRHŒA.

Case. A man aged 35, accustomed to drink spirits freely, contracted gonorrhœa. For this he drank eight glasses of gin-and-water daily. On the 7th day he was unable to make water; so he augmented his potations. On the 8th day he could still pass no water; but had a constant desire to do so. The bladder was greatly distended. He was now received into the hospital.

V. S. ad ʒ xij, (*ad syncopen.*) *Ol. Ricini. Suppositor. Opii, gr.* ii. *Hirud.* xlviii. *perineo et peni. Fotus.*

In the afternoon his bowels were opened, and he passed half a pint of urine; In the evening, however, the bladder was much distended, and the patient was in great pain. An attempt was made to introduce an elastic catheter smeared with belladonna, but the agony it occasioned was so great that the instrument could not be passed. After fomentations the patient voided about a pint of high coloured urine. *Warm bath—diaphoretics.*

Next day he passed two half pints of urine and was easier; but the bladder was still distended. *Hirud.* xx. *regioni pubis.* In the evening he was still much distressed by the retention, having voided a pint of water only. *Hirud.* xxiv. *corp. spongios. Hip bath. Extract. belladonnæ applied.*

On the following day he was no better, and a small catheter was introduced with very great pain; three pints of urine were drawn off.

Liq. Op. Sed. ♏ xij. *Liq. Potassæ* ♏ xv. *4tis horis.*

After this he gradually regained the power of emptying his bladder. In a week he was discharged. He had then only a little pain in micturition.

We observe no mention of an examination of the bladder, through the rectum, having been made in this case. Yet it is highly important, and the surgeon should never neglect to ascertain precisely the condition of the neck of the organ, and of the prostate. Whilst the patient was suffering extreme pain and unable to empty his bladder, he was ordered to take the balsam of copaiba. We cannot say that we like this practice. Suppose there had been abscess forming in the prostate, a supposition by no means unlikely, the copaiba must have occasioned mischief It is this indiscriminate employment of stimulating remedies in gonorhoea that we deprecate. Some little time ago, we saw a gentleman who was ordered to take cubeds while in the state of the patient whose case has just been related. The first dose or two seemed to do him good, when suddenly the most furious inflammation of the mucous membrane of the bladder succeeded, and a very protracted illness was the consequence.*

IV. SIMPLE FRACTURE OF THE LEG, FOLLOWED BY LOSS OF MOTION OF THE SIDE OF THE HEAD, &C.

Case. A stout young man of intempe-

* The reader may be referred to

rate habits, slipped when intoxicated, and broke both bones of the left leg, at a part where they had already been five times fractured. A good deal of spasm occurred at first. Eleven days after the fracture he complained of headache, and want of sleep. Purgatives were exhibited. On the 13th day, the headache continued, he was heavy, his head was hot, and his hand was so unsteady that he dropped the basin while eating his dinner. On the 14th day, there was partial loss of motion in the left arm, entire loss of motion on the left side of the face, and traction of the tongue *towards* that side. The pulse was 62, and bore pressure.

C. C. Capiti ad ʒ xvj. *Abras. capill. dein. Lot. frig. Rep. Pulv. jalap* ℈. *Hyd. sub.*

On the 15th day, answered questions better—pain in the head diminished—tongue protruded in a straight line—pulse less powerful.

Hirud. xx. *tempori.*

On the 17th day, sleeplessness—frequent delirium—no heat of the head or surface—pulse irregular and very compressible—bowels open.

Ordered a pint of porter, and four ounces of gin daily.

On the next day he was much better. On the 19th day, the delirium was gone. On the 22d day, the paralytic symptoms had disappeared. At the end of the sixth week the fracture was found to be perfectly united.

This case very interesting and very important as it evidently is to the practical surgeon, afforded Mr. Tyrrell, under whose care it was, an opportunity of making some clinical remarks to which we would particularly direct attention. The clinical observations in question refer to two separate points—the frequency of fractures in the same individual, and the removal of delirium and paralysis by stimulants.

1. This patient broke the same leg six times, and the other leg once. Yet his occupation did not appear to be one, which would render him particularly liable to fractures of the lower limbs. We must suppose that in him there was more than usual brittleness of bone. As an illustration, Mr. Tyrrell cites a case which came under his own observation.

"It is unusual to find, at the middle period of life, many features occurring in the same individual. I have, however, had under my care a patient several times who is a remarkable instance of the brittleness of bone, or what is termed *fragilitas ossium*. He had been the subject, at the time he was last under my hands, of seventeen fractures; and when I last saw him three or four years ago, he had had five more fractures, making in all twenty-two. These fractures affected the femur, the tibia and fibula, the upper-arm and the fore-arm—scarcely a cylindrical bone of any size had escaped. In consequence of these fractures he has lost in height from seven to eight inches. The first time I had him under my care was in consequence of fracture of the thigh bone, and the other had been fractured once or twice previously. In consequence of indifferent surgery, that limb was shorter by three inches than that for which he came under my care. He had worn an iron to make up the difference in length of the two limbs, and it enabled him to make progression with some inconvenience.—Finding this, I stated that it was possible to set the recently-broken limb to the same length as the one formerly broken, and at his wish I did so. I made an angular union of the second limb, reduced it to the same length as the other, and he was enabled afterwards to make progression more easily and rapidly. Hence I was the instrument of taking off three or four inches from his height, by shortening the limb to that extent."

Mr. Tyrrell makes the observation which has been made by other surgeons, that in the cases in which this brittleness of the bones exists, there is an almost an equal facility of union. This is a curious circumstance.

2. Mr. Tyrrell draws attention to the occurrence of loss of motion of the tongue, side of the face, and left

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some observations on this subject by Mr. Henry James Johnson, at page 488, of the present number.

upper extremity, as a consequence of the deprivation of stimulus. He observes that this need not excite astonishment, when we reflect that the brain may cease to execute or imperfectly perform its functions, from want of blood, as well as from excess of it. We see this to a marked degree in syncope. Mr. Tyrrell saw a case in which, in consequence of "great exhaustion of the vital fluid," blindness of one eye occurred, but disappeared after the administration of stimulating or tonic medicine.

Mr. Tyrrell alludes to several cases, in which delirium, and other symptoms were relieved by the exhibition of the stimulants to which the patient had been previously habituated. The attention which the characters and treatment of delirium tremens have of late received, render a particular notice of many of Mr. Tyrrell's observations, and of some of the facts that he relates, unnecessary. But the following is worth recording.

"I admitted a man with symptoms of concussion, so much so that when he came to the Hospital reaction had not taken place; he was still in a collapse, with loss of sense and voluntary motion: the pupils were dilated. In this state warmth was applied; he was placed in a recumbent posture, and by degrees reaction took place. He suffered severely afterwards from symptoms of *meningitis*, (inflammation of the membranes of the brain) so that he was obliged to be depleted and mercurialized, to a considerable extent, to check it.

He had a wound of the scalp at the time of his admission, and during the first part of the treatment this wound went on well. It was a contused wound and not likely to unite by adhesion; but it began to granulate and suppurate healthily. He became the subject of erysipelas, and he became delirious, raving more violently than either of the patients whose cases I have alluded to. I was called to see him in this state. Upon examining the condition of the circulation, I found it was irregular, as in the two preceeding cases. It struck me that he might be suffering under a deprivation of stimuli. I found he had been accustomed to take freely both of spirits and beer; I still, however, (it being the first case I had seen where such an affection had followed injury of the head,) did not like to give strong stimuli. I thought I would be cautious in my proceeding, for the symptoms might arise from a repetition of mischief of an inflammatory kind in brain, as well as from a deprivation of stimulus or irregularity of the circulation. I therefore gave him a dose of carbonate of ammonia (10 grains.) and desired that if he became more tranquil under the influence of this, that in the afternoon, the dresser should give porter or a small quantity of spirits. Instead, however, of following up that plan of treatment which I had pointed out, and on which I thought I had sufficiently explained myself to those who accompanied me on the visit, the dresser sought the assistance of one of my colleagues who was in the Hospital, but he did not tell him my opinion of the case—he only said that he wished him to examine a patient suffering from erysipelas of the scalp. The secretion of fluid was arrested, the part was puffy, as if there was fluid or air in the cellular tissue.

My colleague thinking that there was matter at some depth, made a free incision through the distended or puffy part. In doing this he divided a branch of the occipital artery, and the patient lost about fourteen ounces of blood. Instead of being relieved, he became more violent—passed a restless night, and when I went to visit him in the morning, I found increased state of delirium and excitement. The pulse was more feeble than on the preceding day; more irregular and more of a depressed character than in either of the other patients. I immediately gave him some stimulus, but expressed it as my opinion that the case was beyond the reach of science or art, for I thought he was in that state in which effusion was taking place. He was comatose in a degree when left to himself, and when roused was extremely irritable.

He went to sleep soon after taking the stimulus; he slept tranquilly, and

awoke without the slightest pain or inconvenience, but still disposed to sleep. His countenance was pallid and his circulation extremely feeble. Seeing him in this condition, I stated that the opinion I had previously formed was more confirmed; that the case was lost; that at the time I ordered stimulants, effusion had commenced, was going on, and would terminate his life. It was my opinion that stimulants could not be given in a greater proportion than I had administered them, without increasing the circulation to an injurious extent.

The case terminated fatally that day; the patient gradually became more and more depressed, and eventually died. I stated, before the *post mortem* examination, that I believed that effusion would be found of a serous kind into the ventricles, at the base of the brain; that the brain would be pallid and the vessels be nearly empty from the loss of red blood. This proved to be the fact: we found serous effusions in the ventricles, and the brain unusually pallid, as if deprived of a large quantity of red fluid."

Of course there is no reason why exhaustion should not occur in irritable and intemperate habits, after inflammation of the brain, as after other affections. But it is exceedingly difficult to determine the real nature of the symptoms in these cases. We have several times seen what appeared to be delirium tremens after scalp-wounds and erysipelas of the head, and we must say that great caution and extreme judgement are necessary in forming any decisive opinion on the case or on its treatment.

We once saw a case of convulsions occur under circumstances of this description. An intemperate man received a scalp-wound. Erysipelas of the head succeeded, and for this he was purged and kept low. Suddenly he was attacked with violent convulsion. It was supposed that matter might be forming between the bone and dura mater. He was accordingly trepanned opposite the scalp-wound. The dura mater was perfectly healthy. Mild nourishment, and some trifling remedies were given, in the adsence of any positive data with respect to the nature of the case; and the patient did perfectly well.

The following is a good instance of the necessity for exhibiting adequate support after even what seem to be trivial injuries.

"I operated on a man between 60 and 70 years of age, and extracted a cataract, but his powers were more feeble than usual at that age. I operated on the Friday, and on the Sunday the apothecary came to say that the man was complaining of pain. I found that the apothecary had employed leeches and blisters, the ordinary means for subduing inflammatory action, but seeing that the patient's countenance was pallid, his hand cold and the pulse irregular, I decided upon the propriety of giving stimulants, in spite of local pain, redness, and swelling. I ordered him a dinner of good broth, meat and beer, and also a small quantity of spirits. On Tuesday, when I paid the usual visit with the pupils, I stated the nature of the case—the remedies which had been employed, and what I expected would be their influence, viz., that it was very probable that they would save the patient's eye. We went up to see the man, and, rather to my surprise, the eye was free from redness, the section was united, and the eye appeared as if no untoward symptom had followed the operation. The eye was saved entirely by the appropriate use of stimuli; had I resorted to depletion, suppuration would have taken place; the organ would have been lost."

We dont quite agree with Mr. Tyrrell upon all points. He appears to deprecate depletion of everydescription almost, if not absolutely indiscriminately. We have seen a good deal of delirium tremens, and we are satisfied that it is often very advisable to commence with local depletion, by cupping and to employ counter-irritation, although at the very moment, or directly afterwards, we may give narcotics and stimulants. It is not in all cases easy to determine whether there is, or is not increased action in the head, and where the latter is hot, with a full pulse, and a stout habit of body, we are satisfied

of the propriety of feeling our way with cupping, cold to the head, and even blisters. We may be pretty sure that these measures will not kill a patient, and they will greatly simplify the symptoms, and render the indications of treatment more clear. More than once we have seen patients stimulated for delirim tremens, and that by judicious and well-formed men, and after death we have seen unequivocal traces of inflammatory action about the brain or its membranes.

In the case which forms the subject of the present report, we are not sure that the cupping, &c. in the commencement, did not pave the way for the successful employment of the stimulants afterwards.

EDINBURGH ROYAL INFIRMARY.

CLINICAL REPORT FOR THE WINTER SESSION, 1834-35. By Mr. SYME.

This Report which is published in our northern contemporary,* contains many cases which present no peculiar features, either of interest or of importance. Cases, for example, are detailed, where ulcers, having certain characters of malignancy, were removed, and the patients left the hospital well. Such cases prove nothing, interest nobody, and are rather calculated to injure science than to benefit it because they affect to offer instances of the cure by operation of malignant changes of structure, when sufficient time has not elapsed, to permit any accurate conclusions to be drawn. These cases we need not and shall not notice.

I. EXCISION OF THE SUPERIOR MAXILLARY BONE.

The superior maxillary bone has latterly been several times subjected to operations, more or less of it having been excised for the cure of malignant disease affecting it. The following cases bearing on the subject may be cited.

Case. A woman aged 42, was admitted on the 26th of November 1834, with the cheek considerably distended by a tumor springing from the superior maxilla, which, though firm, did not possess the hardness of bone.—When the finger was drawn along the lower margin of the orbit, an inequality in its surface was detected, and the floor of the cavity could be felt distinctly elevated. The palate, throughout the whole of its extent on the left side, and also for some distance beyond the mesial plane, was greatly thickened, and extremely irregular on its surface, which exhibited the characters of a malignant ulcer. She stated that ten years previously, she received a kick on the face from a cow, which was followed by swelling that never entirely disappeared. In the beginning of last year she began to suffer pain in the seat of enlargement, and at the same time remarked a great increase in the rapidity of growth. The superior molar and bicuspid teeth of the side affected soon afterwards loosened and came away. Within the last few months the progress of the disease had not been so rapid. The patient's health was good, and on the 28th, Mr. Syme proceeded to remove the superior maxillary bone.

"The patient being seated on a chair, a perpendicular incision was made from the inner angle of the eye down through the lip, and another from the convexity of the malar bone to the angle of the mouth. The flap thus formed was dissected up, and the integuments on each side turned back so as to expose the whole surface of the maxillary bone. One blade of the cutting-pliers was then introduced into the nostril, and the other into the orbit, so as to divide the ascending nasal process. A notch was next made with a saw in the malar protuberance, which then readily yielded to the pliers. After this, only the palate and septum of the nose remained to be divided, which was done by first circumscribing the morbid surface in the roof of the mouth with a sharp-pointed straight bistoury, and then cutting through the bone with the pliers. The diseased mass was now easily turned out to the side, and detached from its

* July, 1835.

connections, when it appeared that the tumour had been removed quite entire. It was of moderately firm consistence, and of a yellowish colour, springing from the maxillary bone, filling the antrum, and, by its pressure, had caused absorption as well as displacement of the floor of the orbit. The arteries that required ligature having been tied, the patient was conveyed to bed. An hour after the operation, the cut edges of the integuments were brought into accurate contact by stitches of the interrupted suture, except at the two points where the lip was divided, each of which was secured by the twisted suture, a sewing needle being used for the purpose. Cloths moistened with cold water were diligently applied. The wounds healed by the first intention, and the patient was dismissed on the 20th of December with wonderfully little deformity. She continues perfectly well."

As evidence that occasionally this operation is successful, Mr. Syme refers to the case which he published in one of his reports for 1830. The bone was removed for a soft, red, malignant-looking tumor. The woman still continues perfectly well.

Mr. Syme particularly enjoins the surgeon not to meddle with those cases in which the disease involves the bones of the nose or the base of the skull. To determine this, Mr. S. would seem chiefly to depend upon the history. He also enjoins the surgeon not to be induced to operate in cases in which there is merely a cyst containing fluid developed in the substance of the bone. The diagnostic mark of this he sets down, as a yielding and crackling, like parchment, when the bone is pressed on with the fingers.

We must remark, however, that this certainly is not a diagnostic sign of the presence of a mere cyst. In a case which we witnessed, the antrum was occupied by a true malignant tumor, yet the partial absorption of the osseous tissue of its anterior wall, gave rise to the symptom in question. Mr. Syme relates the following interesting cases which have come under his observation.

"A gentleman came from the country to have a tumour of the upper jaw removed. It depressed the palate, encroached upon the nostril, and elevated the cheek. At the most projecting part in each of these situations the tumour, though elsewhere of bony consistence, yielded to pressure, and recovered from it with a crackling sensation. Dr. Thompson, Mr. Turner, and I, who saw the patient together, agreed that his complaint depended merely upon a cyst, which would contract and be obliterated if freely opened. I accordingly evacuated a quantity of limpid fluid by making a puncture under the lip, after which the swelling contracted, at first rapidly, and afterwards more slowly, until it ceased to occasion any annoyance. Last Summer a young lady from North Shields applied to me on account of a tumour of the lower jaw, which extended from the bicuspid teeth to the articulation. It was round and firm, and had been growing for three years, having been preceded by pain in the bone, which led to the extraction of the grinders at the part affected. In the most prominent point of the tumour, where it distended the cheek, and also in the situation of the gum, which was expanded and flattened, I detected the characteristic yielding and resiliency of the thin osseous, or rather at these parts membraneous, shell of a cyst, and did not hesitate to open the tumour by removing an elliptical slice from the alveolar region sufficiently large to prevent any chance of the aperture soon closing. Half a tumbler full of fluid, containing numerous shining scales of cholesterine, was evacuated. The patient suffered no inconvenience, and before long observed a remarkable diminution in the size of the swelling, which I understand has since gradually become smaller, and now does not equal that of a pigeon's egg.

Mr. S. makes the following remarks upon the treatment of these serous cysts of the maxillary bones.

"In such cases it has been advised to employ setons, caustics, and other violent means to destroy the secreting action of the cyst, and induce a healing granulation of the surface; but there is reason to regard this practice as un-

necessary and hurtful. That it is unnecessary will appear from the cases just related, to which others attended with a similar result might have been added; and that it is injurious seems probable from the following one. A young man had a large tumour of the lower jaw, which was ascertained to depend on a cyst in the bone. A seton was passed across it from the mouth through the cheek. Contraction followed; but a solid growth afterwards occupied the place of the former cavity. My opinion being then asked, I advised excision of the affected portion of the jaw, which was executed by the gentleman who had operated in the first instance."

We would observe, however, that as mere puncture of a cyst very seldom succeeds in effecting a cure when the cyst is situated in the soft parts, we do not see why it should be more successful when the cyst is placed in the bone. It would be strange if here, where the circumstances favouring contraction are diminished, a cure should more readily occur. Still Mr. Syme's experience should be recollected.

On the whole, the cases of excision of the superior maxillary bone that have come before the public, are sufficient to shew that, in some instances, it has been successful, and has probably saved the patient from otherwise inevitable destruction. This is consistent with what we might anticipate, when we reflect on the morbid growths which affect the lower jaw, and on the occasional success from the partial or total removal of the latter.

At the same time modern experience has run so counter to the indiscriminate or, indeed, to the general performance of operations, for the removal of malignant tumors, that the surgeon should pause before he rashly undertakes so painful, disgusting, and dangerous an operation, as the removal of the upper jaw for malignant tumors springing from it. He should weigh well the circumstances of the individual case—the nature of the morbid growth—its stage—its precise seat—and the general health and strength of the patient. On his discrimination and determination lies no slight load of responsibility—responsibility both to the patient and his art. We say to his art, because bloody and barbarous operations, if useless, redound to its disgrace. We have endeavoured to discountenance those butcher-like displays, so gratifying to low and sanguinary dispositions—on which men with better hands than heads rely for carving out a mechanical reputation—and which, while they make the vulgar stare, must make the judicious grieve.

Formerly, a surgeon was estimated, like a tomahawk-man, by the scalps of victims that he could exhibit. If he was a first-rate operator, he was then a first-rate surgeon. The physicians prescribed and he manipulated. Surgery was in its infancy only. Now the mere operator is shunned as a dangerous, not consulted as an able man. The triumph of our science is in preventing the necessity for the employment of cold steel—in discriminating the varieties of local diseases—and in determining their connexion with general constitutional derangement. For one case in the practice of surgery, in which mechanical dexterity is requisite, there are a hundred, aye, many hundreds, in which mental qualities are necessary.

II. ENCYSTED TUMOR IN THE NECK, CURED BY THE SETON.

Case. A man, aged 40, was admitted on the 1st of March, on account of a large tumor on the right side of the neck. It was nearly twice the size of a turkey's egg, and lay under the sterno-mastoid, before and behind which it projected. The swelling was tense, and, when carefully examined by pressure, allowed fluctuation to be felt distinctly, but no pulsation. It had first appeared after a fall upon the head, eight months previously. It had once been punctured, when a large quantity of fluid escaped.

Mr. Syme introduced a trocar at the anterior and lower part of the swelling, and drew off a quantity of thin watery-looking fluid, with scales floating in it. A seton was then conveyed through the opening already made, under the ster-

no mastoid, and out behind it, so as to cross the tumor at its longest diameter. No remarkable consequence, either local or general, followed, and the seton, which had been changed daily, was withdrawn on the 12th. The upper and posterior orifice closed soon afterwards, and the lower one seeming insufficient for discharging the matter, which was copious and fetid, was repeatedly dilated with the knife, and, lastly, by the caustic potass. The swelling under this treatment gradually contracted, and the patient was dismissed on the 16th April, with hardly any trace of the complaint.

We would refer our readers to a paper by Dr. O'Beirne, on encysted tumor of the neck, which was noticed in a late number of this Journal. The scales floating in the watery fluid which Mr. Syme drew off, were no doubt adipocire. They are occasionally present in the water taken, in cases of hydrocele, from the tunica vaginalis.

III. UNUNITED FRACTURE OF THE HUMERUS CURED BY EXCISION OF THE ENDS OF THE BONES.

Case. A farmer aged 50. was admitted into Minto-House,* on the 7th of February, on account of an ununited fracture of his right arm. The humerus had been broken two months previously, and he had worn splints for six weeks. Mr. S. found that the bone had been broken very obliquely; the lower end of it lay directly under the skin on the outer side of the biceps, and the upper one was felt quite on the opposite side of the limb, imbedded among the muscles. The limb could be bent in all directions at the fractured part, and the broken extremities were so perfectly moveable, that it was evident no bond of union existed between them. After trying ineffectually the effects of tight bandaging, Mr. Syme resolved to remove the ends of bone.

"On the 24th, an incision about two inches in length was made near the lower end of the bone, which was readily exposed, so as to have the rounded extremity removed by a saw. The other end was then sought for by cutting towards the part where it was felt, from the former wound. The depth of its situation prevented the application of the saw; but the cutting pliers proved sufficient to divide it. A splinter, about two inches in length, was thus detached from the shaft, and as its removal threatened to be attended with difficulty, it was allowed to remain, in the hope that union might be promoted by its presence. Pasteboard splints were applied, with proper bandages, and the patient was confined to bed. Great part of the wound healed by the first intention, a portion of it at the centre only remaining open and discharging a small quantity of matter. The patient suffered hardly any pain, and no constitutional disturbance. The dressing was changed every second day."

On the 8th of March, the patient felt hot and uneasy, and was attacked with intense pain in the left groin and calf of the leg. Soon afterwards the thigh became swollen and painful, and next day the whole limb was enlarged, tense, elastic, and painful when pressed in the course of the femoral vein, where induration was distinctly felt. Vomiting, rapid pulse, hiccup, and the other formidable symptoms that usually accompany phlebitis were presented, but the patient finally recovered.

"On the 3d of April he put on his clothes for the first time; and on the 12th it was found that the arm had acquired considerable firmness. On the 28th he went home, a distance of twenty miles, the arm being quite rigid, perfectly straight, and not perceptibly shortened. There was still a very slight discharge of matter, but this I understand has since nearly ceased.

There being only three recorded instances of this operation proving successful in ununited fractures of the humerus since the case of Mr. White in 1760, I feel happy in adding another. The cases requiring it must be extremely rare, but when they do occur, it will be satisfactory to know that the cure may be thus accomplished, even under circumstances rather unfavourable."

* A sort of Maison-de-Santé.

Mr. Syme expresses surprise at the occurrence of phlebitis of the lower limb in this case, and seems puzzled in what manner to account for it. Had he the experience of a London hospital, his astonishment would speedily subside on the frequent repetition of the circumstance, although the difficulty attending the explanation would not perhaps, be proportionally lessened. In fact, such a case is far from unfrequent. We have seen inflammation of the veins of the lower extremity at least a dozen, yes more than a dozen times, after injuries and operations in other parts of the body. The phlebitis must be looked on as one of those secondary inflammations that too frequently occur. In the London Hospitals, these cases are almost invariably fatal.

NEWRY DISPENSARY.

I. DEATH FROM NITRIC ACID POURED INTO THE EAR.

Dr. Morrison, surgeon to the Newry Dispensary, has published this case in the last number of our contemporary of Dublin. *

Case. A woman, aged 40, addicted to drunkenness, had a quantity of nitric acid poured into her right ear, on the 6th of June, 1833, while in a state of intoxication. This was done by her husband. She was awoke by the pain, which continued in a slight degree for two or three days, and then subsided altogether. She then however became so weak as to be unable to quit her bed. Six days after the occurrence, a thick slough was detached from the meatus auditorius externus, and this was followed on the next day by a very copious hæmorrhage. On the day after that the woman lost the use of her right arm, and fell into a state of alarming debility. It was on this day, the eighth, that she came under the observation of Dr. Morrison.

There were now several ulcerated spots on the surface of the ear, and the lobe seemed dead. There was a trifling ichorous discharge from the external meatus, and the sense of hearing was lost. There was no headache, nor were there any febrile symptoms. The following is the curious account of the progress and issue of the case.

"Notwithstanding the plugging of the ear, and the application of astringent lotions, together with the internal administration of tonics, animal broths, &c., the hæmorrhage returned to some extent, almost daily, for about a month, when it ceased, and the general debility during that time increased. A fortnight after the beginning of the illness, the right side of the body, the use of which, from the onset, seemed gradually declining, was so deprived of its usual power, and its different parts so affected with frequent tremulous motions, which even in bed were quite apparent, as to make it evident that one half the body was labouring under paralysis agitans. This latter affection continued about five weeks, when a considerable amendment took place, both as respects it and the general state of the system. The muscles of the right side were now more under the dominion of the will, and the tremulous motions had very nearly subsided. The woman at this time determined on seeing her husband, who was in hospital here, and by the support of two persons, she walked through several streets to him; but on her return home, she felt greatly exhausted, sunk into a state of general prostration, and so continued till her demise, which took place about six weeks afterwards. The side which had been subjected to the paralytic affection, with the exception of the arm, which remained totally deprived of its use, was for several weeks before her death quite free from the tremulous motions, and as capable as the other of the voluntary. Articulation remained distinct, and the mental faculties were unimpaired; the powers of the system at large, more than of individual parts, seeming to have undergone such thorough decay. There was, however, some cough, with muco-purulent expectoration, and night-perspirations."

* March, 1836.

Dissection. The meatus externus was widened. Opposite the meatus auditorius internus, the dura mater seemed in a spot of about the dimensions of a sixpence, darker than it should be. At the entrance of the meatus, there was a clot of blood the size of a pea. The right petrous bone was completely carious. No other positive alterations were discoverable.

Dissection has thrown so little light upon the curious case, that it would be idle to indulge in hypothetical considerations. We shall leave the facts as they stand.

II. Wound of the Epiglottis

The husband of the preceding patient cut his throat when he saw how matters were going. The wound was inflicted between the os hyoides and the thyroid cartilage. When received into the infirmary the voice was nearly extinct, the cough suffocative,deglutition almost impossible, part of the drink escaping through the wound. Two attempts were made to pass the tube of a stomach-pump down the œsophagus. But they were made in vain, the irritation excited by the attempt being too great to admit of its success. These symptoms gradually subsided, the wound healed, and the patient left the hospital with his health nearly restored, and some cough, hoarseness, and a low croaking voice remaining. Three months afterwards he was re-admitted, to die of low inflammation of of the bladder.

On dissection it was found that the epiglottis was deficient in almost the entire of its left lateral half; that its edge at this side was thick and marked by an identation of about a line in depth; and that the arytenoid cartilage of the same side was considerably enlarged, and as it were forced over towards its fellow, as if to supply the place where the epiglottis was wanting.

Whether the symptoms above-mentioned must be regarded as essentially connected with the lesion of the epiglottis, is little more than conjecture.

Sir Patrick Dun's Hospital.

Dr. Law, physician to this hospital, has lately published some pathological observations on the brain and nervous system,* from which we abstract the following case. Before we mention its particulars, we may notice what we fear are some very just remarks of Dr. Law's

"No subject of pathology has been more the matter of crude speculation, than the affections of the brain and nervous system. Very few cases have been considered sufficient substratum for a theory promulgated with all the authority of a well established fact, but whose flimsy pretensions experience was soon to set aside. We would adduce as an example, how premature was the attempt to connect in the constant relation of cause and effect, paralysis of the upper extremity and diseases of the opposite optic thalmus, and paralysis of the lower extremity and diseases of the opposite corpus striatum. Nothing is more injurious to a science, whose conclusions are to be drawn from an accumulation of facts, than a precipitate hurry to generalize, before the facts are sufficiently numerous to furnish adequate data for general deductions; and no science has suffered more from this impatience, and from the over-weaning desire of the eclât of a new discovery than medicine. Many a sickly production has been indebted for its untimely birth and speedy dissolution, to the feverish anxiety to be the first to broach a new doctrine or theory. It must be confessed, that no science has been less fairly dealt with than medicine; none whose records are read with more distrust and suspicion, from the too frequent want of candour and truth with which they are impressed."

The "false facts" of medicine are probably as plentiful as ever. But fortunately, a more rigid censorship is exercised, and scientific mendacity is becoming daily a less profitable trade. It is peculiarly the province of the practical reviewer to separate the wheat and

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* Dublin Journal, March, 1836.

chaff. That separation is difficult or easy in proportion to his information, and we too often see the assumptions of impudence, and the inanities of ignorance, pass unobserved and unreproved, in medical societies, and in medical journals. But we proceed to the case.

CASE. *Extensive Cerebral Hæmorrage—Ossific Depositions in the Arteries —Long-continued Pain in the Head.*

A woman, æt. 43, was admitted into the hospital, with distressing supra-orbital headache; pulse 100, weak; tongue loaded with a dark brown crust at base and in the centre, red and glazed at points and edges; stomach irritable and painful on pressure; no diarrhœa; skin of natural temperature; no depression of spirits. She had been treated for fever by a physician, and Dr. Law, taking the same view of the symptoms, prescribed leeches to the epigastrium, effervescing draughts, &c. But these remedies were of little service, and the Doctor began to think that the essential seat of the disease was in the head.

"What led us to adopt this opinion, was a strength of voice and power of moving herself, apparently incompatible with her other symptoms, as characteristic of low fever. Acting upon this view, we had leeches applied to the left temple, to which she principally referred her pain; she derived temporary relief from their application. We next tried blister, which also relieved for the time. We now determined to bring the system under the influence of mercury, and for this purpose detected a combinatian of calomel and James's powder. No sooner had the mouth become sore, than the headache entirely ceased, and the loaded tongue became clean. This complete exemption from pain only lasted so long as the mouth continued sore, for no sooner had this evidence of the mercurial influence passed by, then the pain returned, although much less constant and greatly diminished in intensity. We again resorted to the mercury, which removed the pain never to return; the tongue resumed the loaded appearance which it originally presented."

We would observe—that under any circumstances it would have been proper, we might almost say natural, to have directed the remedies to the head. "Distressing supra-orbital headache" with a brown tongue, and a pulse at 100, are surely symptoms which indicate leeching, cupping, and blistering in the region of the head. But to proceed.

The sight of the left eye now failed, and was lost, the pupil becoming permanently dilated, and complete amaurosis being established. Suddenly she was attacked with total insensibility, laborious breathing, and slow weak pulse. The temporal artery was opened and ten ounces of blood were abstracted, when the pulse began to fail. Then the bleeding was arrested, and soon the face flushed, and the carotids pulsated strongly. In two hours from the outset of the attack she died.

Dissection. The vessels of the scalp, and the superficial vessels of the brain were much congested. About six ounces of fluid blood were found effused at the basis of the latter. A large coagulum occupied the place of the *locus perforatus*, or floor of the third ventricle, which seemed to have been completely destroyed; both crura cerebri seemed to have been elongated and displaced, and apparently had their natural consistence diminished by the violence they had sustained. The lateral ventricles were filled and greatly distended, with two clots of blood which lay in contact, in consequence of the destruction of the septum lucidum. The right optic thalamus was perfectly natural; the left contained a clot in its softened broken down centre. A large coagulum was found in the middle of the great transverse fissure of the brain, inclining rather more towards the right side; this seemed to establish a kind of connexion between the blood effused into the ventricles and that at the base of the brain. The basilar artery was healthy, but the middle arteries of the brain presented many points of ossific disorganization.

Dr. Law remarks that the ramolissement of the left optic thalamus, was probably the original disease which gave rise to the headache and amaurosis of the left eye, for the optic nerves presented no alteration.

Dr. L. directs attention to the state of the tongue, which was brown and loaded, and which had misled the attendant physicians.

"We have seen," he observes, "this condition of the tongue in affections of the head sufficiently often not to be misled by it; and have been surprised, on pointing it out to more experienced practitioners, to find that it had hitherto escaped their notice. We find Andral, in his lecture on encephalitis, in speaking on the possibility of mistaking this affection for typhoid fever, lays down a clean tongue as one of its distinguishing marks: our experience, on the contrary, leads us to enter our *caveat* not to attach an undeserved value to an appearance of this organ, which so far from helping us out of our difficulty, is calculated to draw us farther into it."

We would observe that whatever may be thought of the abstract nature of fever, it is quite certain that local alterations will occasion all the phenomena of the purest idiopathic fever. We see then no great mystery about this case. The cerebral arteries were diseased, chronic disorganization of the cerebral substance was set up, and low fever was the consequence. This is not unfrequent.

The other cases do not seem to require especial notice. They are instances of hemiplegia.

CLINICAL NOTES OF CASES TREATED IN THE WESTMINSTER HOSPITAL.

By JOHN THURNAM, M. R. C. S.
Apothecary to the Hospital.

In the following selection of observations from my note-book, I have endeavoured (in a somewhat desultory manner, I must confess), to throw together a few cases, which, either as presenting some feature of rather peculiar interest, or as illustrating some point of pathology or therapeutics, I have thought not to be altogether unworthy of being placed upon record. Should I at any future time venture to lay any further observations before the profession, I trust they will assume more of a *definite and connected* form.

The cases are as follow:—

1. Medullary Sarcoma of the Bones of the Face; operation; death; autopsy.
2. Fæcal Abscess; peculiar changes of the respiratory organs, &c.
3. Extra-uterine Fœtation?

Diseases of the Nervous System.

4. Hemiplegia with peculiar phenomena.
5. Paralysis from Caries of the 1st and 2nd Cervical Vertabræ.
6. Hydrocephalus Acutus following Scarlatina.
7. Hydrocephalus Chronicus, with Paralysis.
8. Mania; emplastro-endermic mode of administering remedies.
9. Cases of Eczema.

1. *Medullary Sarcoma of the Bones of the Face; Operation; Death; Autopsy.*

The disease had existed for about nine months, before the admission of the patient (a female aged 46) into the hospital in July last, and commenced with pain in the cheek; tumour of the gum, spreading up the bone, becoming visible externally, and by degrees disfiguring extensively the cheek. The eye was raised by the tumor, as well as encroached by its greater prominence about the orbital margin; the nose was deflected towards the opposite side: there was a constant discharge of an offensive fluid into the mouth, through the alveoli, from which two of the teeth had been extracted before her admission. The pain became more severe, lancinating, and appearing in paroxysms; and the tumour made rapid progress. Mr. Guthrie soon came to the conclusion that the disease was of a malignant nature, the only remedy for which, (although a doubtful one) was in the knife.

The operation was however deferred on account of repeated attacks of irri-

tability of the alimentary canal, manifesting itself in the shape of diarrhœa and vomiting, which appeared to be induced by the deglutition of the nasty secretion from the walls of the diseased antrum,and which was constantly being poured into the fauces. For this reason, it was not until Oct. 24th. fourteen weeks after her admission, that the operation could be performed. In the course of this period, the tumor had increased considerably, the integuments covering it had become livid, and in one case where a puncture had been made to give egress to a little matter, had ulcerated.

Operation. The tumor was first exposed by making a rhomboidal flap of integument, from the cheek. The anterior prominent part of the tumor, which proved to be the anterior wall of the antrum, was removed with the scalpel, and by this means the posterior wall, exhibiting corrsponding marks of disease was exposed. This was partly done with the view of allowing more room for the succeding steps of the operation, and partly to satisfy some of Mr. Guthrie's colleagues of the necessity for more deep dissection. As this was now quite apparent, Mr. Guthrie proceeded to isolate the upper jaw from its attachments, by dividing the zygoma, and the ascending orbital process of the jugal bone, (which was involved in the disease) with a chisel and mallet. This was readily effected from the morbid softness of the osseous tissue in the neighborhood of the disease. The connexion of the superior maxillary and palatine bones with their fellows was readily overcome in a similar manner, and also that of the nasal process of the former with the frontal and nasal bones. A blunt pointed knife was employed to divide the lachrymal, anh orbital plate of the ethmoid bone. The superior maxillary nerve, where it lies in the spheno maxillary fossa, having been first carefully divided with the scalpel, the operator endeavored to raise the diseased mass from its situation by insinuating his fingers beneath it, but was found to retain some close connexions at its posterior border. These it was necessary to divide with the scalpel which was only effected with great difficulty from the motions of the tongue.

On its being removed, some of the diseased mass was found remaining in the situation of the amygdala, and the glandular part of the soft palate, and still more toward the ethmoid cells, and sphenoid sinus. This required fresh and careful dissection, and the whole mass was finally thought to be removed. The operation as far as this point, occupied forty-five minutes, very little blood was lost, not a single ligature was required, and the patient sustained it almost without a murmur. The appearance of the features in this state of vivisection, the ghastliness of the unsupported eye-ball, combined, together with other circumstances better conceived than described, to invest the patient in characters the most appalling that most present had ever beheld.

A combination of the intercepted and the twisted sutures (metallic wire being principally used for the former), was employed in bringing the incised integuments into apposition.

Not a single bad symptom arose after the operation; the ligatures and pins were removed principally on the fourth day, and the remaining ones a day or two subsequently. The patient was for several weeks completely relieved from the severe paroxysms of pain under which she had laboured ; her general health improved considerably, and there seemed to be some ground for hoping that the disease would not return.

There was, as might have been expected, considerable difficulty of deglutition, and articulation, but these defects, after a few weeks, began to be less apparent, and the appetite became remarkably good ; her strength appeared to be returning, and she was able to exercise with the assistance of the nurse in the corridors of the hospital.

Unhappily this state of things was not of long continuance. Late in December the characteristic pain which had for some weeks been present in a less degree, became very severe in the forehead, temple, and face ;—the cheek which was at first sunken by the remo-

val of the diseased mass, became elevated by the regeneration of the morbid structure; the motions of the lower jaw and of the tongue were impeded, and at last nearly impossible: a tumor gradually appeared in the right temporal region, which ultimately occupied a large space in front of the ear and behind the eye, and extending into the parietal region. As the tumor increased in size the pain became more severe, the general health failed, the appetite becoming less and less, and emaciation becoming more and more apparent.—The pain was relieved considerably from time to time by the application of the extract of belladonna softened with water. She had borne up with amazing fortitude under all her sufferings, but about this period there seemed to be a condition of diminished sensibility of the brain to pain, and the patient lay in a state approaching to stupor. The difficulty of deglutition, pain, and other symptoms continued to increase, and the patient's powers to sink, and on February 12th, about four months after the performance of the operation, she died.

Inspection of the body four hours after death. The head was divided vertically in the median line, along with the lower jaw, and the right half was separated from its connexion to the rest of the vertebral column. In this way the cavities of the head and mouth were examined. The right buccal and nasal cavities, which had become one by the removal of the bones, were filled with the cancerous mass, and the right side of the pharynx and root of the tongue were encroached on by the tumor. The basilary portion of the sphenoid bone, with its sinus, had become the seat of the same disease. The occipital bone was free from contamination. In the anterior cerebral fossa, in the situation of the sphenoidal fissure, the softened mass was perceptible to the touch, but there was no tumor, nor was the dura mater altered. The eyeball, though obscured by the tumefied palpebræ, was nevertheless thrown forwards by the extension of the tumor to the orbit. The disease having its seat probably in the greater and lesser wing of the sphenoid bone. Externally the tumour was seen to be lobulated and of precisely the same characters as that removed by operation, and to have the fibres of the temporal muscle atrophied and stretched over its lower half. The thoracic and abdominal viscera were, with very trivial exception, healthy.

2. *Fœcal Abscess; peculiar Changes in the Respiratory Organs, &c.*

Richard Paton, aged 78, was admitted August 25th, 1835, under the care of Mr. Guthrie. He had a cataract in each eye, and Mr. Guthrie contemplated relieving him by operation.—When he had been in the hospital about a week, he began to complain of pain, of rather an obscure nature, in the abdomen, attended with diarrhœa and tympanitis. This was treated as inflammatory, with leeches, calomel, and opium, mustard cataplasms, &c. When the diarrhœa became more chronic he had chalk and kino mixture, opiate enemata, and latterly, as the powers of the constituiion seemed to fail, quinine, brandy, and a nourishing diet were added. About the middle of September a little swelling and redness were observed in the right groin. A livid colour took the place of the redness. The integuments became thin, a small portion gradually sloughed, and in this way an ulcerated opening was formed which gave egress to an offensive dark coloured matter, having a strong fæculent odour, and in other respects closely resembling unhealthy fæces. The discharge became more abundant, and was occasionally tinged with blood; the diarrhœa continued and became more severe; he had occasional fits of rigor amounting to horripilation, with pain in the hypogastric region, of a character still more severe. For these symptoms the starch enema with opium, the hip-bath, and hot fomentations were employed, with but little advantage.

Early in Octobor a second tumor, having similar characters to the previous one, appeared rather higher up in the groin, which ran a corresponding course, elongated, and discharged a similar matter. The patient gradually became exhausted, ceased to feel pain,

the pulse became feeble, aud without any fresh symptoms manifesting themselves, he died on thd 9th of October.

Inspection of the body. The fistulous openings in the groin were found to communicate with a large sloughy abscess in the situation of the iliacus internus and psoas muscles, both of which had become nearly destroyed. The abscess had burrowed between the fascia transversalis and abdominal muscles above the pubes, beyond the median line of the body to the left side, and likewise extended downwards into the pelvis, by the side of the rectum, to about half an inch or so above the anus. There was no carious disease of the vertebræ or iliac bones.

The smaller, and last-formed fistulous opening in the groin, passed between the external iliac artery and vein, to communicate with the abscess. The proper tunic of the latter was very thick, like that of an artery, but at the point where the sinus was in the closest contact with it, inflammation had set up in its interior, its canal was partially obstructed by coagulated lymph, the internal and middle coats were ulcerated for the space of about an inch, the continuity of the canal being, for this extent, preserved merely by the thin external cellular coat. The other sinus passed under Poupart's ligament, externally to the iliac vessels, to communicate with the abscess. The intestinal canal communicated with the abscess at three points. First a knuckle of the ileum had become adherent to the peritoneum covering the iliac fossa, at about ten inches from the termination of the small in the large intestine, and here an opening as large as the point of the forefinger existed. There was a still larger communication with the upper and inner part of the cæcum, and one, smaller than either of the others, with the colon about two inches above the cæcum.

It will be observed that the point where the opening into the cæcum existed, was precisely that which in a healthy condition of parts is occupied by the mouth of the appendix vermiformis cæci. Search was in vain made for this little organ in the peritoneal cavity, and it was only on very close examination that it was found extending from the opening described in the cæcum into the cavity of the abscess, with the parietes of which it had become adherent. It was pervious, but highly thickened, and its extremity disorganized. There was scarcely a trace of the ileo-cæcal valve of Bauhin, and the opening of the ileum into the cæcum would scarcely admit of the point of the little finger. The mucous membrane of the large intestine was in a state of livid congestion, as well as of ramollissement; there was one large and distinct patch of ulceration about the comencement of the colon: a large clot of blood was found in the rectum. The abscess just below the cæcum was only intercepted from the serous sac of the abdomen by the peritoneum itself, which during the dissection was ruptured by an exceedingly slight force.

Thorax. The lungs were crepitant, had traces of carbonaceous matter here and there on their surface, but were in a rather exsanguine and emphysematous state. The heart was, if anything, rather under the medium size, and had a white spot on its surface rather larger than a shilling. There might be a little dilatation of the right cavities. The left ventricular cavity was contracted, from very considerable concentric hypertrophy of its walls, so that on dividing it, it would scarcely admit the forefinger. The walls were one inch, and in some places a line or two more, in thickness. The auriculo-ventricular opening was patescent from the existence of a rather considerable ossific deposite in the base of the mitral valve, occupying two-thirds of its extent.—There was a little dialation of the left auricle, attended with some hypertrophy, chiefly of the musculi pectinati. The substance of the liver was healthy, but presented three remarkable depressions in the shape of sulci, on its convex surface. These sulci were found to correspond with a similar number of highly hypertrophied muscular fasciculi of the diaphragm; and a like state of this muscle existed also on the left side. The bodies of many of the dorsal and lumbar vertebræ, as well as their con-

necting fibro-cartilages, presented numerous irregularities, from the presence of exostotic deposits.

That the disease which proved fatal in this instance, had its origin in some obstruction in the mouth of the vermiform appendix, giving rise to inflammation, ulceration, and consequent abscess, an attentive consideration of the morbid appearances would, I think, lead us to conclude. Another sentiment, however, was expressed by some at the examination of the body, viz. that the disease had originated in the muscles and had only implicated the intestine secondarily. The following considerations would, I think, tend to establish the view of the case which I advocate, and which I believe to be applicable to most of the cases of this description which have been published. Cases of abscess in the right iliac fossa, involving the cæcum, and generally leading to fistulous openings in the abdominal parietes, are not very unfrequent, and have been recorded by Dupuytren, Dr. Copland, and others; but did they *commence* in the external parts, and were they *primarily* inflammations of the "pericæcal tissue," to use the term given by Dr. Copland to these cases? Can any reason be alleged why they should not be of equally frequent occurrence in the left iliac region? And that this is the case will not, I suppose, be contended.

Paton's case is also interesting, from the appearances met with in the respiratory organs. The fasciculated diaphragm, fissured liver, semi-anchylosed and exostotic vertebræ are appearances, coupled with a peculiar condition of the tissue of the lungs, and of the bony walls of the thorax, which, it seems, from "Clinical Researches on the Diseases of Old People," recently "conducted at the Hospital of the Salpetrière, by MM. Hourman and Delambre," are extremely common in the bodies of persons in advanced age.*

3. *Extra-Uterine Fœtation?*

Sarah Bailey, aged 30, was admitted, Oct. 27th, under the care of Dr. Bright. She sought admittance into the hospital more on account of a bronchitic affection, than of the circumstances which are here to be detailed. She gives the following history of her case:—During the last fifteen years, has lived in a state of concubinage with a sailor; has had no children; miscarried seven years ago. Five years ago she became pregnant, "quickened about the middle of her time," was very large, but continued to menstruate during the whole nine months, and, with the exception of the last four months, during which time the catamenia have been rather irregular, has continued to do so up to the present moment. At the expiration of the nine months, pains, supposed to be those of labour, came on, which for some days were very severe—but at the end of a week left her. The abdominal tumor has remained ever since, though a good deal less than during the nine months.

At the present time there is a distinct tumor in the umbilical and left hypochondriac regions, which is peculiarly prominent and distinct when she lies on the left side, and is terminated in a roundish protuberance, about as large as an orange, just under the cartilages of the false ribs. A secretion of watery milk took place in the left breast at the time, but this has given place to a very remarkable blackish-green secretion, which she can at any time express from the nipple.

Diseases of the Nervous System.

4. *Hemiplegia, with peculiar Phenomena.*

The case of Francis Armstrong, a patient of Dr. Roe's, may be perhaps worthy of notice, as an example of apoplectic seizure, followed by hemiplegia at an early age, viz. 23, without any ade-

* Since the above was written, I have been fortunate enough to have had two or three other opportunities of confirming the interesting observations of these gentlemen, whom I am happy to see are continuing their researches. It would swell this communication to an unreasonable length, to introduce the particulars of these cases here.

quate cause that can be assigned for its production. Recovery of power in the limbs is taking place gradually; the arm was nearly stationary during a fortnight, but at the present time, seven weeks after the seizure, is going on satisfactorily, under the repeated application of blisters over the interior wall of the axilla. Before the blister was applied, he noticed that, although the muscles of the arm were entirely insensible to the stimulus of volition, yet that, in the actions of gaping or sneezing, the arm was involuntarily brought into a state of flexion. I directed his particular attention to this symptom, and, from the uniformly-consistent nature of his statements, I can place confidence in them. The motions were confined to the fore-arm.

The interesting nature of the bearing which this fact has on Sir Charles Bell's theory of a respiratory system of nerves, will at once be seen. Setting aside the theory, however, or rather hypothesis, as I believe we must at present deem it, the case fairly establishes the close bond of sympathy which exists between the ordinary muscles of respiration, and those of the extremities; and that to an extent even greater than Sir Charles, as far as I recollect, has himself shewn.

5. *Paralysis from Caries of the 1st and 2d Cervical Vertebræ—Autopsy.*

Anne Josey, aged 16, was admitted August 22d, into Percy Ward, under the care of Mr. Guthrie. The complaint arose nine months ago, after exposure to a draught of cold air, in the shape of a painful stiff neck, which at first affected the right side, but, after some time, became most severe on the left. This gradually got worse up to the period of her admission.

Sept. 4th. There is great pain in the neck, with swelling, especially on the left side and towards the nape. The head is bent downwards and towards the left side, the face looking to the right, apparently in consequence of the contraction of the sterno-mastoid and other muscles, supplied by the spinal-accessory nerve. There is paralysis of the upper extremities of both sides, both as regards motion and sensation. The paralysis does not appear to extend to the lower extremities, nor is there any loss of power in the sphincter. The urine is sometimes retained, requiring the use of the catheter; there is also a good deal of diarrœa. The muscles of the face and jaws are the subject of a painful spasmodic affection, resembling trismus. Eyes prominent, pupils dilated—anorexia—tongue red—pulse accelerated, with other febrile symptoms.

The left arm was first affected with the paralysis—it is now œdematous, and its surface presents several round and oval, elevated and circumscribed spots, some of them as large as a half-penny. They have a reddish and inflamed base, and would seem to consist of an elevation of the cuticle, by the presence of lymph in the areolæ of the so-called rete mucosum of Malpighi. The patient gradually became worse, and died on the 6th September.

The autopsy revealed the existence of an abscess behind the pharynx, containing healthy pus, and involving the substance of the longi colli muscles. It was lined by a very thick velvety membrane, and extended from the base of the skull to the fourth curvical vertebra. The anterior arch of the atlas, and the body of the vertebra denta, were in a carious state, and the odontoid process was broken off. The membranes of the spinal cord opposite the diseased bones did not present any unusual vascularity, but were slightly thickened. The spinal cord was somewhat compressed, and was darker in colour than natural at this spot. The brain was healthy.

6. *Hydrocephalus Actus, following Scarlatina.*

This case was remarkable in being a sequel of scarlatina, occurring in connexion with the ordinary exanthematous dropsy. The patient, a servant-boy, aged 16, was short necked, and rather plethoric. At the time of his admission (Oct. 13th), he became convalescent of scarlatina, a fortnight ago, for the last week of which, however, he had been suffering from general dropsy. There

had been no head symptoms up to the day of his admission. On the morning of that day, he awoke with severe pain in the head, especially in the temples, and a symptomatic amaurosis disabled him from dressing himself. He was seized with a convulsive fit whilst waiting in the out-patient's room, and, upon his removal to the ward, these were repeated with great severity and frequency. The dejections and urine were expelled involuntarily during the paroxysms. At other times he remained insensible, was very restless, and constantly moaning, tossing his head about &c. A more than slight febrile action disturbed the regularity of all the functions. He was bled to 16 ounces—the head was shaved, and a cold evaporating lotion constantly applied. During the night he had several convulsive fits. On the morning of the 14th, he lay in a completely insensible state grinding his teeth and moaning; the eyelids constantly closed, pupils contracted. There appeared to be a slight hemiplegiac state, the right leg not responding so readily to stimuli as the left, and their being a slight distortion of the features to the left side. At 11, a. m. ʒx. of blood were taken from the nape of the neck by cupping, and he was likewise ordered a saline diaphoretic mixture.

At 4, p.m. he was found much better; has only had two short fits since he was cupped, and he is now able to answer questions. The grinding of the teeth is gone, and he has a good deal of quiet repose.

On the 15th, he had regained complete vision; the convulsive fits, of which he only had two in the course of the day, were very slight. From this time he continued to improve rapidly, and,on the 27th,was dismissed as cured.

There was, however, as I thought, a slight hemiplegiac condition—the right arm appeared to hang somewhat more motionless by the side than the other, and the foot of the same side seemed to drag a little.

7. *Hydrocephalus Chronicus, with Paralysis.*

Hannah Gough, aged 20, having suffered from chronic hydrocephalus since her infancy, was admitted Nov. 3d, under the care of Dr. Roe. Her friends however, it would appear, obtained her admission, more with a view of obtaining relief for a chronic eczema of the scalp, neck, and axilla, under which she has laboured during the last 18 months, than on account of the hydrocephalic condition. The eczema was developed six months after the healing of a seton that had been inserted in the nape of the neck, when a patient at Guy's Hospital; and to this cause it has been attributed.

Under the employment of the vapour-bath, and of a mild alterative, she is getting rid of the cutaneous disease. The case is a well-marked one of chronic hydrocephalus. The head measures fifteen inches from the nasal process of the frontal bone to the occipital tuberosity—and the same, arching over the cranium, from one mastoid process to the other. It is twenty-two inches in circumference, taking the line usually described in sawing through the skull, for the purpose of removing the calvarium.

There has been partial paralysis of the right arm during the last three years; it now principally effects the extensors of the hand, as in the case of "dropped hand" from lead. The hand of this side is pale, but of good temperature,and the pulse at the wrist is strong and full. The contrast between the two hands is very striking. There is no actual paralysis of this side, but for some time she has experienced a painful degree of numbness in the arm. This is attended with coldness; the hand has now a puffy tumidity about it, has a reddish and rather livid colour, feels cold and clammy to the touch—the skin is rough and harsh; and the tout-ensemble is very much that of a hand after long exposure to a freezing atmosphere. The pulse at the wrist is 96, as on the other side; but it is feeble, soft, and much more readily compressed.

8. *Mania; Emplastro-Endermic Method of Medication.*

The case of mania was very acute and rapid in its progress to a fatal ter-

mination. The subject of it was a female, aged 20, of respectable connexions. The case has been regarded as one of delirium tremens, and she was brought to the hospital two days after the first attack. It was difficult to obtain any correct history of her habits., &c. as she had been living in a secluded manner. Anxiety on pecuniary matters, excitement on the subject of religion, and the softer passions were all adduced by different of her acquaintance—some alledging one, and some another. It is not improbable that all these causes had some share in the development of the disease. The madness was of the most furious kind, requiring constant restraint; when she first came in, religious subjects of the most melancholy description where the burden of her ravings, but, towards the latter days of her life, sexual ideas seemed to predominate. Little or nothing in the way of food or medicine could be got down, and, on the 9th day of the disease, she died, probably as much from the effect of inanition, as from the exhaustion produced by the disease. The case is related here principally for the purpose of alluding to the advantage of the "emplastro-endermic" mode of administering remedies in mania. In the present instance, a blister had been applied to the nape of the neck, and I took advantage of it for this purpose. One grain of muriate of morphia (afterwards increased to 2 grains), rubbed up with a few grains of lard, was applied to the blistered surface at bed-time. The happy effects of stealing the remedy into the system in this way, manifested themselves, on the first application, in procuring a tranquil state—and, on the second, in obtaining for her, for the first time, several hours' sleep.

The inspection of the body after death did not throw any new light on the pathology of mania. There might, perhaps, be a somewhat anormal degree of vascular congestion, both in the cerebral substance and its proper meninx. There was a slight degree of simple hypertrophy of the left ventricle of the heart; and the internal genital organs were in a high degree of congestion.

9. *Eczema.*

Of the cases of cutaneous disease which have presented themselves at the hospital, those of eczema have been the most interesting. Three cases, during the last eight months have been observed, in which no local cause could be assigned for the production of severe and extensive eczema of the impetiginous variety, which in two became chronic; nor yet any constitutional one, except a deranged state of the uterine function. Two of these females were suffering uterine disturbance at the "critical epoch," and the third was pregnant. This patient died in the hospital from puerperal fever, following abortion about the fourth month of utero-gestation. The patient aborted almost immediately on the disappearance of the eruption, after a small blood-letting. She had, however, been taking likewise the expressed juice of the menyanthes trifoliata. What share had this remedy in the production of the abortion? A highly interesting case of what seems to be modified eczema rubrum, having a recurrent and highly inveterate form, appears to merit a detailed notice, especially as having been communicated to the Westminster Medical Society, it has since been published in an imperfect and mutilated form.

10. *Modified and inveterate Eczema-rubrum.*

Thomas Cass, aged 24, a carpenter, was admitted Nov. 17th, 1835, under the care of Mr. White.

At the period of his admission the following particulars were noted. Tall and thin in stature, of pale complexion, and deeply marked with the cicatrices of small-pox pustules. The surface of the body in many places presents the cuticle in a state of desquamation, especially that of the thighs, the mammæ, and the plantar surface of the feet. In the latter situation the process is in its least advanced stage. The palmar surfaces of the hands and fingers have only recently parted with their cuticle, are extremely red and tender, and are studded with numerous minute drops of perspired fluid. The appetite is

good; bowels regular; tongue reddish, slightly furred in the centre; pulse 84, very full, of medium strength; complains of a feeling of general uneasiness in the chest, accompanied with sensations of "rumbling and fluttering;" impulse of the heart somewhat increased.

History. Six years since had small-pox very severely after vaccination, the left eye becoming nearly useless from extensive corneal opacity. After this he had good health during four years. At this period he was for some time employed at Jones's Match Manufactory at Battersea. A month or so after this, and two years ago, an eruption appeared all over the body of minute vesicles, or as the patient termed them "pustules." These were about the size of a pin's head, the intermediate portion of the tegument being of a deep red colour, the development of the erythema having however been prior to that of the vesicles, by a day or two, and before the latter appeared he had taken powerful diaphoretics. There was burning heat, severe pain, and excessive pricking and itching of the skin. In the course of a short time, the vesicles ran into each other, and were ruptured, either spontaneously or by the patient's scratching them, and they discharged a watery fluid. The entire course of the attack appears to have occupied about six weeks, and its termination to have been in a moist desquamation of the cuticle;—the "dark squameuse humide" of Alibert. Preceding and accompanying the local affection, there was considerable disturbance of the functions; viz. pain in the head, dazzling light before the eyes, slight delirium, uneasiness in the chest, with a painful feeling of oppression and beating all over it; tongue very white, rough and furred, appetite but little affected, no thirst, urine scanty and high coloured, no sore throat. Twelve months after this he had a second attack, having precisely the same symptoms, course, and termination. Six months had scarcely elapsed, when, five months before his admission, he had a third attack, differing from the preceding ones in the absence of all vesication, and consisting merely in an uniformly diffused, and extremely deep red blush. He had not taken as before any diaphoretic remedies. He has since had two attacks without vesication; these have followed each other at intervals of about six weeks; and terminated in the entire desquamation of the cuticle, in a dry state. It is the last and fifth of these attcks, the last stage of which he now labours under. He has not taken murcury in any form. Whether this mineral enters into the composition of any of the matches, made by Jones and Co. at Battersea, is not known.

Nov. 22nd. He went to bed as well as usual; about 2 A. M. he awoke complaining of great heat of surface, and had a rigor which lasted more than an hour, with great pain in the head. A deep red rash appeared on the neck, which before morning had spread all over the body In the morning the entire surface was of a deep brownish red colour, without tumefaction or vesicles, the skin dry, tongue moist, furred, white; pulse 108, full.

V. S. E. B. ad ʒxiv.

℞. *Mist. Diaphoret.* c̄ *Antim. Tart. capt.* ʒiss. *ter die.*

℞. *Haust. Cathart. p. r. n. sumend.*

23rd. No sleep, urine scanty, bowels open, skin dry and hot, of a deep coppery red. To-day, for the first time, a few flat and irregularly-shaped confluent vesicles were noticed between the shoulders. These contained a little yellowish serum.

V. S. E. B. ad ʒxij.

℞. *Mist. Effervescens.* c̄ *Sp. æth. nit. capt.* ʒi. 2*dis. horis.*

24th. The cuticle has already commenced desquamating, especially about face and shoulders; the surface generally is less red and hot; bowels open, tongue less furred, head-affection almost gone, urine more abundant.

25th. The general symptoms are all much relieved, except that he still complains of pain in the head. Very extensive desquamation of the cuticle is going on, large laminæ peeling off in all directions. The arms and upper part of the body are already nearly

clean. The epidermis of the hands appears likely to separate in the form of complete cuticular gloves, the chirothecæ of the older anatomists.

Persistat in usu medicament.

26th. This morning, on visiting the ward, found his bed full of pieces of exfoliated epidermis, which was also strewed by the bedside. Entire desquamation has now nearly taken place. Two layers of cuticle, however, on the plantar surface of the feet, that separated by the preceding and the present attack, remain to be exfoliated. The gloves of cuticle alluded to in yesterday's report, have been removed entire from the hands; in order to do this, it was found necessary to slit up the cuticle covering the backs of the fingers, and to cut it around the basis of the nails. This evening he has severe pain of the head, which was relieved by a fit of epistaxis.

28th. Cuticle almost entirely separated from the whole surface. Tongue less red; urine abundant, pale; still complains of extreme throbbing and pulsation all over the body, but especially in the head, where he can count the pulse—96, full and soft.

Dec. 3d. The new cuticle on the palms of the hands presents numerous dry cracks and fissures, and to the touch of the observer feels like a piece of dry crackling parchment; complains of pain and heat between the shoulders.

6th. The cuticle is again separating, in very fine, almost pulverulent pieces, without any preceding vesication or erythema. During the last week, he has been taking the following mixture prescribed by Mr. White.

℞. *Quiniæ sulphatis*, gr. xvj. *Liq. arsenicalis*, ♏ xlviij. *Oulvaris acaciæ*, ʒ ij. *Aquæ.* ʒ viij. *Mice fiat mistura. Cap. ter quotide.*

This has however been relinquished for the antiphlogistic plan, combining with it the use of diaphoretics and diuretics. *V. S. E. B. ad* ʒxij.

26th. Had an attack of the erythema without any vesicle.

27th. During the last week the cuticle again desquamated as the result of the attack reported on the 28th. This morning another attack of the modified eczema has appeared all over the body; the eruption, as on former occasions, being of a coppery red colour, attended by heat and tingling. Dr. Addison, who kindly saw the case this morning, thought that with the aid of a lens he could detect what he regarded as abortive and imperfect vesicles, in the form of very minute elevations of the cuticle not containing any appreciable fluid. Tongue red; no tenderness on pressure in the epigastrium, or other symptoms of gastro-enteritis.

Feb. 6th. Since last report he has, with very little exception, had an attack, slight and partial only, of the eruption every Sunday morning, which has been followed by but very trifling exfoliation of the cuticle. No very decided plan of treatment has been followed during this interval, and the case may be said to have been treated on the "methode expectante." This morning, however, the surface is covered by a more severe, and altogether general erythema, of the usual coppery-red hue, (without any vesicles,) and attended by the accompaning heat and pain, and a slight febrile movement. The antiphlogistic plan with colchicum has been adopted.

15th. The cuticle has exfoliated universally;—he has continued to complain of the great throbbing of the subcutaneous capillaries, beating in the head, and palpitation or "faultering" of the heart;—to use his own language, "it seems as if the blood were in ferment." There continues to be rather more redness of the tongue than is normal, especially at its sides and tip, and likewise of the pharynx and soft palate.—*Fiat venesectio ad* ʒvj. *semel in hebdom.*

℞. *Acidi hydrocayanici*, ♏ xvj. *Acidi tartarici*, ♁ iv. *Aquæ*, ʒviij.—*Misce. Capt.* ʒj. *ter die, cum* ʒj. *Mist. sequent. in impetu effervescentiæ.*

℞. *Sodæ carbonatis*, ʒij.. *Aquæ*, ʒviij. *Misce.*

Habt. balneum calidum omni nocte. Serum lactis bovin Oj. *quotidie.*

Low diet with a mutton-chop. To take daily exercise in the open air. The above plan of treatment has been adopted, at the suggestion of Dr. A. T. Thom-

son, who saw the case yesterday, and regards the cutaneous affection as symtomatic of some gastro-enteric irritation; as however the treatment seemed equally appropriate with another view of the essential pathological condition, viz. an increased and disordered activity of the arterial system; the plan was cheerfully entered into by those who differed from Dr. Thompson in his view of the case.

Feb. 24th. Since last report some amendment appears to have taken place; there has been no return of the eruption for nearly three weeks; less heat and tingling of the surface, &c. &c. The treatment adopted on the 15th is still continued.

Clinical Report on "Hydrocele of the Neck." By Mr. Bransby Cooper.*

Our readers are aware that Dr. O'Beirne, of Dublin, has lately drawn attention to the formation of serous cysts in the neck Hydrocele of the neck has been the term applied to the affection. Mr. Bransby Cooper has published a case of this description in the Guy's Hospital Reports. It admits of a good deal of abbreviation, and the following are its principal features.

Case. A private in the Royal Horse Artillery, aged 20, was admitted into Guy's Hospital, on the 3d of June, 1835, with a tumour situated under the left sterno-mastoid muscle; reaching posteriorly, so as to occupy the whole space between it and the trapezius: in its vertical axis, it extended from just below the mastoid process to the junction of the middle with the scapular third of the clavicle, and horizontally from this point to the sterno-clavicular articulation. The lower and anterior part of the tumor was the most prominent, and of the most recent formation: the whole swelling seemed as if divided into three distinct lobes; and althongh they each conveyed the sensation of fluctuation, their cysts did not communicate. The tumor moved with the larynx in the act of deglutition, but appeared to be independent of the thyroid gland. The integuments were of a natural colour, and the veins of the neck were not swollen. The tumor had first been observed twelve months before his entrance into Guy's Hospital, and had gradually increased. Iodine had been more than once exhibited, but although it did no good to the tumor, it did no harm to the general health. The man was therefore discharged from the army.

"On the 10th of June I made a small incision down to the sac, at the most prominent point of the anterior cyst, and punctured it with a lancet; when about five ounces of a serous fluid escaped, the first portion of which was clear, but about the last two ounces were coloured with blood. I then introduced a long canula into the cyst, furnished with a trochar, to which were attached four threads of silk; and pushing the trochar through the skin on the opposite side, thus passed a seton through the cyst. The tumor was then diminished about one-fourth in size, shewing that one cyst only had been opened; but I thought it more prudent to await the result of this operation, than to evacuate the three cysts at one time."

On the 13th pyrexia occurred, with much pain and swelling of the cervical glands. In the evening these symptoms had become aggravated, there was much difficulty of respiration and of swallowing, the tonsils were enlarged, and an unhealthy serous discharge issued by the side of the seton. The latter was accordingly removed, and leeches, calomel and antimony, &c. prescribed. The febrile and inflammatory symptoms subsided, and on the 17th, the wound made by the seton, having ceased to discharge, a female catheter was introduced into the cyst, and about an ounce of sanious fluid let out. This operation was repeated on the 18th. The tumor was then not above one fourth of its original size, and it appeared as if the other cysts had ul-

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* Guy's Hospital Reports.

cerated and evacuated their contents. On the 19th very little fluid escaped, upon the introduction of the catheter; but upon pressure at the posterior part of the tumor, in the situation of one of the cysts which had not been opened by the seton, nearly half an ounce of less bloody fluid issued.

On the 1st of July, Mr. Cooper directed some pressure to be made with strips of the emplast. ammoniaci c hydrargyro. This was done for about a fortnight, when the tumor was reduced to an eighth of its original dimensions. Then again was the patient attacked with fever, difficulty of swallowing, inflammation of the throat, and all the former train of symptoms, and again he required leeches, calomel, &c.

"On the 24th, on examining the tumor, it was found to have increased considerably; and a distinct fluctuation could be perceived at his posterior and inferior part, which, on pressure, forced the fluid towards the cicatrix of the opening made by the seton, proving the existence of a sinus across the transverse dimensions of the tumor. I therefore made a counter-opening; and discharged about two ounces of clear serum; and introduced a small piece of lint into the opening."

After this the discharge became bloody, and flakes of adhesive matter were discharged from the new opening, with much constitutional irritation. The tumor, however, grew smaller, the bad symptoms disappeared, the counter-opening healed, and nothing of moment happened till the 5th of September, when a small abscess formed near the opening originally made by the seton. It was opened, and a little inflammation ensued. On the 1st of October, a small portion of the tumor again secreted, and led to the necessity of another opening being made; and about three drachms of serum were discharged:—a piece of lint was introduced into this small cyst, which was followed by some slight degree of constitutional irritation, but this subsided directly the lint was removed; the opening quickly healed, the cyst became obliterated, and, after this, he had no further relapse. He was kept in the hospital till November, when he was discharged cured, rigidity of the neck, from the contraction and obliteration of the cavities of the cysts, alone remaining.

"I once admitted into Guy's Hospital," says Mr. Cooper, "a patient—who was sent up to me by Mr. Rump of Holt in Norfolk—who was the subject of deep-seated tumor on the left side of the neck which produced difficulty both in breathing and swallowing. From the manner in which it was tied down by the muscles, fluctuation was but very indistinct: and I had the patient brought into the operating theatre, with the idea that I was about to remove a solid tumor: but in the progress of a careful dissection for its excision, the sac was opened, and several ounces of fluid escaped; thus proving the true nature of the case. I introduced a portion of lint into the sac; which became obliterated partly by adhesive inflammation, and partly by the process of granulation. The patient was discharged perfectly cured.—This case I consider to have been completely of the same nature as the last described; namely an adventitious formation of a serous cyst, and which is certainly not inappropriately termed a Hydrocele.

I believe the introduction of a seton is a better mode of treatment than injection, in these cases; as it affords a more ready means of removing the source of irritation, and is less protracted than the employment of caustic for the purpose of producing obliteration."

Our readers will perceive that, a few pages back, in a Report from the Royal Infirmary of Edinburgh, is a case of "hydrocele of the neck," cured by the seton. The cases which have lately been published, and most, if not all of which, have been collected in this Journal, establish the not unfrequent occurrence of the disease, and the general success that attends the employment of the seton. At the same time, this must not be supposed to be quite unaccompanied with danger. The case of Mr. Cooper exhibits severe symptoms from its use; and the fatal results that have occasionally followed the measure, in cases

of serous cysts in other parts of the body, should make the surgeon chary of officious meddling with irritable constitutions.

CLINICAL REPORT ON ANEURYSM.*

I. CASE OF FEMORAL ANEURYSM;—EXTERNAL ILIAC ARTERY TIED BY SIR A. COOPER. DISSECTION OF THE LIMB AT THE END OF EIGHTEEN YEARS.

A man, aged 39, was admitted into Guy's Hospital, June 22d, 1808, on account of aneurysm of the right femoral artery, immediately below the ligament of Poupart, which was raised considerably by the tumor. This was as large as a small pint bowl, and the skin over it was thin, tense, and purple. The disease had appeared in the Spring of that year, after a walk of five miles with a heavy burthen.

The operation of tying the external iliac, a little above the ligament of Poupart, was performed on the day of his admission by Sir Astley Cooper. Two ligatures were applied, and the artery was divided between them.

We need not pursue the details of the case. It is enough to observe that a good deal of suppuration about the wound and sac ensued, and the patient did not recover for some months from these immediate effects of the operation. He lived, however, for eighteen years and a half after it, and died in the Autumn of 1826.

The limb was injected from the common iliac artery, and, a careful dissection being made, it was put up as a preparation in the museum of the hospital, where it now is. The following is the account of the mode in which the circulation was established and carried on. It is drawn up by a very good anatomist, Mr. Cock.

The description is methodically addressed to these three points. 1. The condition of the iliac trunk above the site of the ligature. 2. The appearances presented by the vessel immediately below the ligature; together with the situation and remains of the aneurysmal tumor, and the femoral artery as restored by the influx of blood from anastomosing branches both above and below the sac. 3dly. The manner in which the restoration of the femoral trunk had been effected by collateral circulation.

Condition of the External Iliac Artery.

The external iliac artery was pervious, to the extent of rather more than an inch from the bifurcation of the common iliac; but had become somewhat diminished in size, and altered in shape. No branches were given off from this portion of the vessel, which, when filled with injection, presented a conical form, tapering downwards to a mere point, and terminating in a rounded cord, which constituted the remaining part, or the obliterated portion of the artery, and was continued down to the spot where the operation had been performed. The ligature had probably been applied just above the origin of the circumflex and epigastric branches, although no evidence remained to indicate the precise spot. Just above Poupart's ligament, the iliac trunk became suddenly restored (apparently by the influx of blood from the branches mentioned above), and assumed about half its natural size. The obliterated vessel presented the appearance of a continuous unbroken cord, from the cessation of the iliac above, to its restoration below.

Condition of the Iliac and Femoral Artery below the Ligature.

It has already been stated, that the iliac trunk became restored just above Poupart's ligament, by the retrograde circulation established through the circumflex and epigastric branches, which received their blood from the branches of the internal iliac above. The vessel having thus regained about half its natural size, passed into the thigh, and was continued without receiving any accession from collateral vessels, until it reached the origin of the profunda. From this branch (*i. e.* the profunda)

* Guy's Hospital Reports.

the trunk appeared to derive a large supply of blood, sufficient to restore it to the ordinary extent of calibre which the femoral possesses in a stout muscular limb; the remaining portion of the femoral artery, below the profunda, presented nothing unusual in its appearance, and bore no indication of having received any further influx of blood through collateral branches. Just above the origin of the profunda, the femoral artery had become distorted, and irregular in shape; and was rendered somewhat obscure by its connexion with what appeared to be the remains of the aneurysmal sac, adhering to the anterior surface of the vessel, and gluing it to the adjacent muscles and fascia. There can be but little doubt, that the original opening of communication between the sac and the femoral trunk had existed at this spot, viz. just above the profunda branch; but it would seem equally apparent, that, as the aneurysmal tumor became obliterated in the progress of the cure after the operation, the opening into the vessel also became closed, while the integrity of the arterial trunk, above and below the sac, was maintained continous and entire.

The manner in which the Restoration of the Femoral Trunk had been effected by the Collateral Circulation.

The collateral circulation had, in this instance, been established by the junction of the ileo-lumbar, obturator, gluteral and ischiatic branches, from the interiliac, which the circumflex and epigastric of the external iliac, and the profunda of the femoral. They consisted of three sets of communicating vessels, which descended, respectively, over the fore part, the internal side, and the posterior surface of the hip-joint; and may be described as forming a vascular plexus around the articulation, ramifying amongst the muscles of that region.

The anterior set consisted—1. Of a very large branch from the ileo-lumbar artery, which descended along the crista of the ilium, to terminate in the circumflexa ilii and circumflexa ilii externa. 2. Of another branch from the ileo-lumbar, which became joined by a small artery from the obturator, and divided into a number of small and exceedingly tortuous vessels. These connected themselves to the anterior crural nerve; and, descending under Poupart's ligament, terminated in the external circumflex branch of the profunda. 3. Of two other branches from the obturator, which turned over the brim of the pelvis, and formed a plexus similar to the last, which, after communicating with the epigastric, descended on the inner side of the femoral trunk, and terminated in the internal circumflex branch of the profunda.

The internal set consisted of the branches, given off by the obturator after it had left the pelvis, which ramified amongst the adductor muscles on the inner side of the hip-joint, and joined most freely with the divisions of the internal circumflex from the profunda.

The posterior set of anastomosing vessels was constituted—1. By three large branches from the gluteal; two of which crossed the dorsum of the ilium, in close contact with the bone, and anastomosed near the anterior and superior spinous process, with the ascending branches of the external circumflex; whilst the third descended in a direction more nearly vertical, between the gluteus maximus and medius muscles, to join with the middle branches of the same artery, just below and behind the trochanter major. 2. By several slender and very tortuous vessels from the ischiatic which surrounded the great nerve of that name, and thus, descending behind the thigh, communicated with the internal and external circumflex, and, finally, terminated by joining the perforating branches of the profunda.

In this preparation, the ileo-lumbar, obturator, gluteal and ischiatic arteries, will be seen enormously dilated. The internal pudic is also of large size; but it does not appear to furnish any direct communication with the femoral.—Doubtless, however, in the dissection of the limb, many small branches were removed, which, during the life of the individual, lent their tributary streams to swell the femoral trunk, and assisted

in restoring to the limb that supply of blood which enabled it to maintain its muscular developement, and carry on its functions with undiminished vigour.

This is a very interesting dissection, and may be justly added to the stock of valuable facts, connected with the operation for the cure of aneurysm. We are delighted to see one of the early cases in which that operation was performed, placed permanently on record, as another of the memorials of days gone by, and of surgeons whom the profession will always regard with respect, and with affection. We are glad that our old friend, Sir Astley, has communicated the details of one of his early triumphs to the public.

II. FIRST SUCCESSFUL CASE OF LIGATURE OF THE COMMON CAROTID ARTERY FOR ANEURYSM; WITH THE DISSECTION, THIRTEEN YEARS AFTERWARDS. By Sir ASTLEY COOPER, Bart.

Again we have before us one of the earlier exploits of Sir Astley. The patient, whose case this is, was a man aged 50, who had an aneurysmal tumor, apparently of the internal carotid, situated just below the angle of the jaw, on the left side of the neck. The operation of tying the common carotid artery was performed by Sir Astley on the 22d of June, 1808, in the theatre of Guy's Hospital. No symptoms of any consequence succeeded the operation; the ligatures (two were used, and the artery was divided between them) separated on the 13th and 14th of July; on the 17th, the patient walked out of his ward; and, in September, he was discharged from the hospital, his recovery having been retarded by a sinus which remained in the track of the ligature. In 1821, the patient died of an attack of apoplexy, and the body was examined by Sir Astley Cooper and Mr. Key.

Dissection. An injecting pipe was introduced into the arch of the aorta, and common coarse injection thrown in, the subclavian arteries being previously tied external to the scaleni.

The head was then opened and examined, for the purpose of discovering the seat and cause of the fatal effusion. On cutting away the hemisphere of the left side of the brain, a large semifluid clot was discovered, filling an apoplectic cell in the substance of the brain, just above the corpus striatum, and close to the corpus callosum: the size was that of a hen's egg. A little further examination discovered the source of hæmorrhage to be a large branch of the middle cerebral artery, the trunk of which vessel appeared more dense and white than usual, as if undergoing the change prior to ossification. The disease of which he died sufficiently attested the freedom of the circulation, as well as its force in the cerebral vessels, on the side on which the carotid had been tied. The arteries on the left side of the brain were rather larger than those on the opposite side. The anterior cerebral artery was of the same size as its fellow; the middle cerebral larger than that on the right side, which was filled with a coagulum, and did not admit the injection.* The large size of the latter vessel is accounted for by the increased size of the communicating branch; which, receiving its blood from the basilary, had become as large as an ordinary radial artery. The basilary appeared to be of its usual capacity, although it was evidently the channel which supplied the middle cerebral artery. The blood probably found an easier course from the basilary, through the left communicating branch, than into the right corresponding vessels, which appeared rather diminished in size. From an inspection of the base of the brain, after the vessels had been injected, it immediately struck the observer, that the left side of the arterial circle of Willis was much more developed than the right, and that the left side of the brain received its full share of arterial blood. The anterior cerebral artery received its supply from its fellow by means of the transverse branch: these vessels seemed to be of their usual size. The internal carotid

* These appearances are shewn in the "Reports," by a coloured lithographic diagram.

artery was pervious for about half an inch, and of its ordinary capacity.

The external vessels were not so well displayed. Those of the face did not receive the injection. The common carotid trunk was impervious throughout its whole extent, being reduced to a mere cord. The external carotid was injected at its commencement; and the superior thyroideal was also filled from the arteries of the opposite side: but beyond this the branches were empty, and therefore could not be satisfactorily traced.

It is rather to be regretted that Sir Astley was unable to determine with more precision the exact site of the aneurysm, and condition of the primary branches of the external carotid, as well as that of the internal carotid. The perviousness of the external carotid, at its origin, seems to shew that the aneurysm was, as Sir Astley thought at the period of the operation, situated in the internal carotid.

This case, taken with the one that precedes and follows it, must be deemed a valuable contribution to our information on the consequences of the operation for aneurysm. We know pretty well, for anatomical reasons, where to look for those anastomoses which shall stand in the stead of the obliterated or choked-up trunk; but still it is desirable to know what steps Nature has actually taken in these circumstances. The profession must feel indebted to Sir Astley for contributing these cases to the publication before us.

III. AXILLARY ANEURYSM CURED, BY TYING THE SUBCLAVIAN ARTERY. DISSECTION OF THE LIMB TWELVE YEARS AFTER THE OPERATION.

This case, so far as the operation is concerned, was published in the 13th volume of the Med.-Chirurgical Transactions. The dissection of course had not then occurred; and, as this forms the principal interest of the details, to this we shall almost exclusively confine ourselves.

Case. A man, aged 36, while making a sudden exertion with his left arm in July, 1823, felt something snap below the collar bone. In a day or two afterwards an aneurysmal tumor appeared below the clavicle. The operation of tying the subclavian artery was performed by Mr. Key on the 20th of September, the tumor being then of some size, and having thrown up the clavicle. The ligature separated from the artery on the 12th day after the operation. The tumor gradually subsided, and the patient lived until the Spring of 1835, when he died with anasarca of the lower limbs, and other symptoms of visceral disease. He had bequeathed his arm to Mr. Key, and after his death it was injected, removed from the body, dissected carefully, and put up as a preparation for the museum of the hospital. We may observe that the case possesses some additional interest, from its being the first instance in which the subclavian was tied with success in the hospitals of London.

Dissection. The muscles of the right arm were more than usually large. There was a small and indistinct cicatrix in the skin above the clavicle.

On removing the skin, the division of the platysma myoides was apparent, from an interspace of an inch between its fibres, which were here replaced by a dense cellular structure. The omo-hyoideus was rather higher than usual, probably from the division of the fascia which braces it down to the clavicle.

The subclavian trunk had undergone no material alteration in size, from its origin, to the point where the ligature had been applied, just on the other edge of the scalenus muscle. Here the vessel became suddenly obliterated, assuming the form of a dense flattened cord, which was continued for about two inches and a half into the axilla, and terminated in the remains of the aneurysmal sac. The precise spot where the artery had been tied was clearly indicated by a deep indentation; but the continuity of the vessel above the ligature, with the obliterated portion below it, was not destroyed, or, more properly speaking, had been restored, after the separation of the silk, by a process of adhesion, which connected the two

extremities to each other, and glued them to the contiguous structures. The aneurysmal sac still existed in the exilla; where it formed a firm and solid, but at the same time somewhat elastic and yielding tumor, about the size of a small hen's egg. It was situated immediately behind the pectoralis minor, and firmly adherent to the second rib; which, however, had not become, in the slightest degree, absorbed by the pressure which it must have sustained: the sac was otherwise but slightly connected to the surrounding textures, and presented a smooth uniform exterior, bearing altogether considerable resemblance to those cysts which are occasionally found to form themselves around foreign bodies. The obliterated portion of the axillary trunk terminated in the upper and back part of the sac: while, from its under surface, the continuation of the artery was seen to emerge, as a perfect vessel; having been restored to nearly its natural calibre by the entrance of a large branch, which was originally given off immediately below the tumor, and through which the blood had afterwards assumed a retrograde course.

On opening the sac, the coats of which were remarkably dense and hard, it was found to contain a firm and solid coagulum, which readily separated from the surrounding cyst, and, on being removed, retained the precise shape of the tumor. A section of it clearly evinced that it consisted of fibrin, apparently inorganized, dense, and tough in its texture, and of a dirty-yellowish colour.

The anastomosing vessels which carried on the circulation are too numerous to be individually described. They are, therefore, arranged into three sets:—

1. A posterior set, consisting of the supra-scapular and posterior-scapular branches of the subclavian, which anastomosed with the infra-scapular from the axillary.

2. An internal set, produced by the connexion of the internal mammary on the one hand, with the short an long thoracic arteries and the infra-scapular on the other.

3. A middle or axillary set, which consisted of a number of small vessels, derived from branches of the subclavian above, and passing through the axilla, to terminate either in the main trunk, or some of the branches of the axillary below. This last set presented most conspicuously the peculiar character of newly-formed, or rather of dilated arteries. They were excessively tortuous, and formed a complete plexus, which was almost inseparably connected with the axillary nerves: many of the branches penetrating into the midst of the nervous fibres, so as to render their separation a work of great difficulty and labour.

The chief agent in the restoration of the axillary trunk below the tumor was the infra-scapular artery, which communicated most freely with the internal mammary, supra-scapular, and posterior-scapular branches of the subclavian; from all which it received so great an influx of blood, as to dilate it to three times its natural size. The infra-scapular artery was, in this subject, given off much higher than usual; and its origin had been included in the aneurysmal dilatation: in fact, the artery opened into the sac itself; and, under the restored state of the circulation, the blood had to traverse a small portion of the cavity, in order to reach the commencement of the axillary trunk. The continuity between the two vessels had been preserved through the coagulum contained in the tumor; which, for a short space, actually constituted the arterial coats: thus, when the contents were removed, the injected wax became exposed at the bottom of the cyst; while a corresponding deep sulcus in the coagulum indicated the channel through which the blood had passed.

The supra-scapular artery was, in this instance, given off by the superficial cervical, and became augmented, just as it reached the scapula, by a branch which arose from the obliterated portion of the main trunk; but which had again been rendered available, as a medium of circulation, by receiving a vessel from the subclavian above.

The common organ of the short thoracic and humeral theoracic arteries had become obliterated as it came off from

the sac itself: but the two vessels had subsequently regained their original size; the one being supplied by its connexion with the internal mammary; the other by communications with the superficial cervical.

Mr. Key observes, in reference to the preceding case, that it tends to lessen our confidence in the dogma, that it is unsafe to apply a ligature to a large artery, close to the organ of a considerable branch. We would say, that this opinion, or this dogma, call it which we may, is founded upon facts too well attested to permit us to doubt, that the contiguity of the organ of a large arterial branch, is a source of risk. Such cases as the present may diminish our estimate of the quantum of that risk, but were they much more numerous than they are, they could only form a *quantitative* argument. The cases in which secondary hæmorrhage has occurred, when an artery has been tied close to the point from which a vessel of any size has sprung are sufficient to make every prudent surgeon avoid, if possible, incurring such a hazard. On the other hand we have cases, which, like that before us, inform the surgeon that under circumstances otherwise favourable, he may hope that even the vicinity of a large branch will not prevent the adhesive process in the trunk, in the situation of the ligature. Probably the state of the patient's constitution exercises the most important influence. If that is good, the formation of a solid clot may be of comparatively little consequence; if that is bad, every collateral assistance is required to seal the mouth of the vessel. All surgeons know that the adhesive process occurs more readily in some persons than in others, even in what appears to be the state of perfect health. One man who, to use the popular expression, has "got good flesh to heal," repairs even the severest injuries with little effort and disturbance. In an other the most trifling wound will fester, the reparative process is established with difficulty, and imperfectly carried on, and severe lesions are almost surely mortal.

To revert to the subject of the preceding observations, the case we have related does not shake, and cannot shake the value of the practical rule—not to tie a large trunk near the source of an important branch, unless imperatively called upon to do so. If we have the choice of two situations, one near the origin of a considerable branch, and one remote from it, the man must be mad who would cæteris paribus select the former. But if we have no choice, or if there are serious objections to operating any where but near the origin of a large vessel, this case of Mr. Key's, and others of the same description, will tend to moderate our anxiety and apprehensions.

IV. FEMORAL ANEURYSM CURED BY TYING THE EXTERNAL ILIAC ARTERY.

The facts of this case may be quickly summed up. The patient was a plethoric man, aged 26, admitted in September, 1822, with an aneurysm in the right femoral artery. The disease had commenced a year previously, when he also observed an aneurysm in the other groin; the latter, however, spontaneously disappeared. On the 28th of September Mr Key tied the external iliac artery, in the manner recommended by Sir Astley Cooper. A single ligature only was employed. The only unplesant symptoms that succeeded the operation, were headache and febrile disturbance. Purgatives and one bleeding to ten ounces removed them. The ligature was found lying loose in the wound on the 10th of October The wound was itself quite healed on the 22nd. On the 25th, he could walk out of doors, and on the 28th he left the hospital in good health, with scarcely any remains of the aneurysmal sac.

Two cases of popliteal aneurysm, cured by the ligature of the femoral artery, are related at length by the Reporters. We need not pause to notice them.—Mr. Key appends to the series some general remarks on the subject of aneurysm, from which we shall select the following, on the removal of the ligature after time has been allowed for the adhesive process in the artery.—After having alluded to the circum-

stance that attempts have been occasionally made to withdraw the ligature after a certain, that is, a very uncertain period, Mr. Key proceeds:—

"One of the earliest attempts of this kind, with which I am acquainted, was made by Sir Astley Cooper, in the year 1816, when I was dresser in the hospital. A miller, below forty years of age, had laboured for some months under pain, stiffness, and swelling under the knee, which had originally been produced by the act of lifting a heavy sack of flour. The tumour pulsated strongly, and occupied the whole popliteal space being somewhat above the usual size of popliteal aneurysms. The man was otherwise healthy.—Sir Astley Cooper laid the artery bare, and passed around it a single stout ligature; securing it by a slip knot, so that it might be removed at any period the operator might choose. The ligature was allowed to remain undisturbed on the vessel for forty-eight hours; at the expiration of which time the lips of the wound were separated, the ligature exposed, and, by gentle means, loosened from the artery, but not removed. While Sir Astley Cooper was loosening the silk, I kept my hand on the sac in order to ascertain if the adhesive process had sealed tne artery sufficiently to prevent the access of the blood. For a few seconds, the sac remained free from pulsation; but an impulse was soon felt, that rendered the re-application of the ligature necessary. The ligature was again tightened; and the pulsation in the swelling again ceased. The wound, being disturbed in the process of adhesion, suppurated. At the expiration of twenty four hours after the second application of the ligature, making in all seventy-two hours from its first application, it was entirely removed, having completely sealed the artery, and effectually interrupted the current of the blood. The patient went on well for ten days; the wound granulated speedily: and the tumour remained free from pain, and diminished in size. On the evening of the eleventh day, a profuse hæmorrhage took place from the wound, but spontaneously ceased. I sat by his bedside during the night, in the expectation of a return of the bleeding; but no further loss of blood took place; and the wound which for a few days bore an unhealthy aspect, re-assumed its former healthy state, and was healed at the end of seventen days. He left the hospital in six weeks from the operation, able to walk well, and in good health."

At present we have not sufficient data to enable us to determine when the process of adhesion is sufficiently advanced, to permit the safe removal of the ligature. In the first place, that period probably differs in different persons according to their constitutional powers; and, in the second place, the attempt to untie the knots is too likely to disturb the vessel, and derange the lymph effused in it. When we add to these circumstances the fact, that the present operation answers well, and that the accidents from the long retention of the ligature are neither numerous nor great, we shall account for the reluctance which surgeons have evinced to prosecute many such experiments as were made by Sir Astley Cooper. At the same time it is possible that the advantages might be obtained from an earlier abstraction of the ligature than is now effected.

Mr. Key mentions a suggestion which was made to him by a medical gentleman, with respect to the mode of undoing the knots of the ligature. It consisis of thread passed under each fold of the knot, so that the ligature may be loosened by pulling the ends of the threads: catgut forms a good material for the ligature, as the knot more readily yields.

The cases we quit derive some degree of additional interest from the well known adroitness, and, we believe, success of Mr. Key, as an operator.

Here we must take our leave of the "Guy's Hospital Reports" for the present. Those reports contain the following articles:—An Introduction on the Advantage of Recorded experience in Medicine, by Dr. Barlow—Observations on Fevers, by Dr. Bright—Unusual Dislocation of the Head of the Femur upwards on the Ilium—Cases of Dislocation and Fracture, with Ob-

servations, by Mr. Bransby Cooper—Tetanus, cured by quinine and stimulants—Case of Traumatic Tetanus—Cases in the Obstetric Ward—Cases of Small Pox in the Deaf and Dumb Asylum—Illustrations of the Museum.—These papers we have not yet had space to notice. The remaining contents of the volume have been fully analysed in our present clinical department. They are the following:—Effects produced by Diseased Cerebral Arteries, by Dr. Bright, Ovarian Dropsy removed by the Accidental rupture of the Cyst—Cases of Femoral, Carotid, Axillary, and Popliteal Aneurism—Case of Hydrocele of the Neck—Essay on Pericarditis, by Dr. Hughes.

Thus a large part of the contents of the Guy's and St. Thomas's Hospital Reports will be found in this number of our Journal. We shall endeavour to render our clinical department more and more complete as opportunities present themselves. This is essentially a practical Journal of Medicine and Surgery. We disclaim and reject the mysteries of transcendentalism, those emasculated fancies, the offspring of the stagnant vapours of the closet, and food only for pedantic stomachs. Facts and strict inductions on them, the pabulum and exercise of manly intellect, are what we mainly profess to offer.

DREADNOUGHT HOSPITAL SHIP.

SUPPOSED ANEURYSMAL TUMOR IN THE ORBIT, FOR WHICH THE COMMON CAROTID ARTERY WAS TIED.*

The following is in many respects so curious a case, that we lay an abstract of it before our readers.

Case. A seaman, aged 20 was admitted into the hospital ship on the 13th of July, 1835, with concussion of the brain, considerable hæmorrhage from the right ear, and a small wound behind the left. These were the consequences of a blow from the gaff of his vessel. On the 15th, there was complete deafness of the right ear—the integuments around the left orbit were œdematous—the pupil of that eye was dilated—he could not move the eye—and there was slight paralysis of that side of the face. On the 18th, there was some irregularity of the pupil, with headache on the left side, and some inflammatory symptoms. He was salivated. On the 24th, there was purulent discharge from the right ear. On the 28th, the conjunctiva of the left eye was much inflamed and œdematous. On the 31st, purulent matter was deposited between the laminæ of the cornea.

In the beginning of September, the anterior laminæ of the cornea ulcerated. In the middle of November he was seized with the small-pox, and after recovering from this in December, the eye was much inflamed, and the ulcer on the cornea large. The ulcer gradually filled up, yet the eye seemed to protrude.

"On the 1st of February," says Mr. Busk, the surgeon and the reporter of the case, "on making examination of the eye, I felt on pressing the globe a distinct pulsation; and farther found, deeply situated in the upper and inner part of the orbit, a firm pulsating tumor, which appeared about half an inch in its transverse and longest diameter: it was situated between the levator of the eyelid and the bone, and did not show itself externally, but when the eyelid was raised it caused some projection of the loose conjunctiva.

The pulsation of the tumour was accompanied with a very distinct whirr, which could also be felt on pressing the parts in its immediate neighbourhood. Through the stethescope, a very loud aneurysmal whizzing sound was communicated, weich could also be heard on applying the instrument over the inner canthus of the other eye, and on the left side of the frontal bone, as high as the roots of the hair, and nearly as far back as the ear."

In addition, there were loud noises experienced in the head. Pressure on the left common carotid artery arrested

* Med Gazette, Feb. 27th. 1836.

the pulsation and sounds of the tumor, as well as the noises in the head.—Mr. B. therefore, determined to tie that artery, which he did on the 2d of February, after the abstraction of 20 ounces of blood on the 1st. Immediately on tightening the ligature, the pulsation and sounds of the tumor, and the noises in the head were stopped. Four hours after the operation, obscure pulsation could be felt in the tumor, and the wizzing sound could be heard in it although there was no pulsation in the temporal; the sounds in the interior of the cranium were heard at intervals. On the 3d, he was bled to 16 ounces, on account of cough. On the 4th, no tumor could be felt in the orbit, and the pulse and the whizzing were gone. They did not afterwards recur, at least they had not done so by the 19th, the date of the report. On the 15th, the ligature separated from the carotid. The eye had then returned nearly to its natural level. The upper half of the cornea was clear, the lower occupied by a dense leucoma; there was no power of motion in the globe of the eye, nor in the left side of the face; there was great deafness, especially in the left ear. We would state that on the 6th some grumous blood was discharged from the left nostril. Mr. Busk promises to communicate hereafter any particulars of consequence, with which he may become acquainted.

The case is curious, and we cannot offer a definitive opinion on it. Supposing the tumor to have been aneurysmal, and to have been seated in one of the branches of the ophthalmic artery, it is singular that it should so suddenly disappear after tying the common carotid. The communication of one internal carotid with the other in the cranium is so free, that this effect of the ligature is remarkable. Speculation on the case, however, is useless, and we must content ourselves with simply recording the fact.

St. George's Hospital.

Sir Benjamin Brodie on the Treatment of Corns and Bunions.

Sir Benjamin Brodie has not deemed it derogatory to the majesty of surgery, to look after corns and bunions. From a most excellent clinical lecture on this subject by the able Baronet, published in the Medical Gazette, we extract some practical remarks upon their management.

A corn at first consists merely of a thickening of the cuticle, the effect of pressure, and usuall seated over some projecting bone or articulation. But after a time a little bursa forms beneath it, so that a perfect corn consits of both conditions. If the corn occurs between the toes it is kept moist,and constitutes a "soft corn."

Hard corns are temporarily relieved by paring, filling, or causing them to exfoliate by means of caustics. But more is required for a radical cure.—The following are the remarks of Sir Benjamin on this head.

"In some way or other all undue pressure must be removed from the part on which the corn is situated.—*First*, the shoe must be made as nearly as possible to the shape of the foot, and it must cover the metatarsis and a portion of the tarsus, so that the whole pressure may not be thrown on the toes; or a boot made to be laced or buttoned may be worn instead of a shoe. In some cases it is advisable that the shoe or boot should be made, not of ordinary leather, but of very soft and flexible buckskin, or of cloth. A material for shoes and boots is sold under the grandiloquent name of *pannuscorium*, which answers the purpose intended in these cases very well. It is really a kind of cloth, but it has the appearance of leather, and is very soft and pliable. *Secondly*, if any of the toes are displaced in any of the ways which I have before described, we must endeavour to restore them to their natural position. In young persons this may be generally accomplished. A contrivance made use of by the bandage-makers is very use-

ful on these occasions. It consists of a thin plate of metal covered with thin leather, or a piece of stong leather, fitted to the lower surface of the foot, —not to the whole of the surface, but extending from the extremities of the toes nearly to the tarsus. Slits are formed in this plate of metal or leather, and tapes are passed through these slits, forming loops above, by means of which the toes are bound down and retained in their proper places. In many cases the same object may be attained by similar means. A stripe of linen, spread with adhesive plaster, about two-thirds of an inch in breadth, may be passed over the toes which are too elevated, and under the others, the extremities of the plaster being made to cross each other over the metatarsus. If this be neatly applied, it will keep the toes parallel to, and on the same level with each other. Whichever of these methods be employed, it is necessary that it should be persevered in for a considerable time."

In old people it is useless to attempt to alter the malposition of the toes. Sometimes it is necessary to amputate a toe, in consequence of the inconvenience it occasions. This necessity arises more frequently in the lower than in the upper classes.

The chiropodists relieve a corn, by cutting a hole corresponding to it in a piece of buckskin leather, spread with some adhesive plaister, and applying this to the foot. Of course the pressure is thus taken off the corn. If a hard corn forms on the sole of the foot, over the head of one of the metatarsal bones, it is particularly troublesome. Sir Benjamin thus treats it. The hard cuticle being removed, a broad piece of buck-skin leather is to be applied, having a hole in it where the corn is situated. But a thin piece of calico spread with adhesive plaster, and having no hole in it, is to be applied first; that is, between the leather and the foot. Without this last contrivance the flesh of the foot, when the patient walks, bulges or projects into the hole of the leather, so as completely to fill it up, and the patient's condition is rendered rather worse than better. The calico with adhesive plaster prevents this incovenience, at the same time that it does not prevent the leather answering the intended purpose of taking the pressure off the corn, and throwing it on the surrounding parts.

When an abscess forms, as it occasionally does, in the bursa under a corn, the corn should be pared and the bursa opened.

A soft corn is to be treated on the same principle as a hard one. Pressure is to be removed. A properly shaped shoe must be made, and the toes if displaced brought back by appropriate contrivances to their right position. The right toe is the one usually distorted, and it is pushed more or less underneath the second phalanx of its neighbour. The following contrivance some times answers:—A piece of *very thick* buckskin leather, spread with adhesive plaster, is to be applied on the inside of the little toe, so as to occupy the whole of the inner surface, from the apex to the second joint. The leather should be cut so as to be thin at its margin; and it should be sufficiently broad to admit of being doubled over a good part of the upper and under surface of the toe, as well as its extremity. This contrivance will keep the litrle toe at some distance from the next toe, and prevent it from sliding again under it. in addition to these means the nitric acid should be applied to the corn itself, so that it may dry, and exfoliate. Occasionally a soft corn is exquisitely painful, although there is no suppuration beneath it. In a case which occurred to Sir B. Brodie the application of the nitric acid relieved the excesssive tenderness.

The treatment of bunions is regulated by much the same principle as that of corns.

Unhappily we can speak from experience on the miseries of corns. The tendency to them is certainly frequently hereditary, the children of parents who have laboured under them, contracting them long before adequate compression from boots has occurred to occasion them. When a great disposition to their formation exists, we much fear that a

permanent cure is next to an impossibility. We have given up the attempt in despair. We have tried, ad nauseum, cut boots, cut corns, plaisters of all sorts on leathers of all thickness, caustics, and all the resources of chiropodism, and here we are hobbling in damp weather, with unabated agonies. If a man has really such corns, we pity him. Let him find, if he can, an honest bootmaker, who will make him what it is as difficult to discover as the longitude, easy boots, and patiently suffer the inflictions of Providence. That is the conclucion to which we have been compelled to come.

But to those who are not thus doomed to hopeless torment, we recommend the capital lecture of Sir Benjamin. If the remedies he proposes won't ease their feet, they may join the awkward squad of incurables, for neither chiropodism nor surgery can do more for them.

MISCELLANIES.

Cyclopædia of Anatomy, Part V.

Anatomical Plates of Mr. Quain.

The press of matter in the present number prevents our fully noticing these as well as some other works, for which this must be our apology. In our next number we shall bring up our arrears, and adopt a plan which will enable us to give a more full account of *all* new works, than has hitherto been possible.

We may observe, in passing, that both the works, whose titles are before us, have high claims on the attention of students. They should both be in the possession of all who hope to prosecute their anatomical studies with advantage and success.

Reclamation.

To the Editors of the Medico-Chirurgical Review.

Gentlemen,—In the course of the Review, given in your last number, of my work on "Spinal Irritation," I observe that you put the following query:—"Has Dr. Marshall never seen reason to suspect in these cases"—(viz. those simulating diseased heart)—"that the symptoms arose from *Masturbation?*" To this I can decidedly reply in the negative. I never had, in any of my *published cases*, the shadow of reason to suspect the presenee of such a vice. A vice which, when it has gone to so great a degree as to produce symptoms, such as those detailed in my cases, I have almost uniformly found accompanied by a decay of the mental as well as the physical powers. Moreover, I regret to say, that, in all my experience of this loathsome habit, I have very rarely succeeded, *even under the strictest surveillance*, to effect a cure; but, on the contrary, have found the miserable victims dwindle into a state of fatuity, hopeless mania, or a premature death.

In case the third, there was not the slightest ground for suspicion, that such a habit existed. In case fourth, I may say the same. The subject of this, subsequently became, for six months, an inmate in my own family. A more estimable and strictly moral youth I have rarely known, and from

childhood he had been distinguished for the same unblemished regularity of conduct and feeling. Permit me to add, that the subjects of both these cases are now *remarkably well grown and robust young men.*

I observe in your remarks on the cases of simulated phthisis, that you are inclined to consider case the FIRST, as one of "Hooping Cough." By the testimony of her then medical attendant, the patient had had well marked hooping cough at four years of age. Since I received your Review, I have applied to her surviving relatives, and they *decidedly* corroborate this statement. I may here remark, that I have noticed this hacking convulsive cough as a frequent symptom of spinal irritation. I observe that Dr. Griffin makes the same remark.

I hope, Gentlemen, that neither you nor the public will suppose that I make this reply in a contentious or querulous spirit. Nothing can be further from my feelings. With the most profound indifference to "ephemeral opinions," I hold such gentleman-like and generous criticism as that which you have bestowed upon my unpretending work, to be the very life and health of our science, and our professional literature.

I am, Gentlemen,
With sincere respect, yours, &c.

JOHN MARSHALL.

Manchester, Feb. 12th, 1836.

DISEASE OF HEART, LIVER, &c. By JAMES JOHNSON, M.D.

Single cases are not often useful, unless they bear upon some useful or disputed point in pathology, diagnosis, prognosis, or therapeutics. The following case is not without interest in some of these respects.

It is now about three years since a young gentleman, a patient of Mr. Chinnock's, came under the observation of the narrator. Mr. Barnes, then aged about fourteen years, was born in Bencoolen, and came to this country when about six or seven years of age. He was, for some years, at an academy near London, and appeared to enjoy good health, being active and cheerful. He returned from school to the house of a most indulgent and friendly protector at Kensington, some months before Dr. Johnson saw him, and was under the care of Dr. Chinnock, who treated him for affection of the heart and disorder of the digestive organs.

On examination, at the time mentioned above, it was ascertained by auscultation, that hypertrophy of the heart, to a considerable extent, had taken place, and that a dropsical tendency was commencing. Even then (and the phenomena became more intense afterwards)—even then, the action and sounds of the heart were frightful. The *bruit de scie* and the *bruit de soufflet* were often loud and distinct; but, in general, there was a tumultuous noise and action, resembling the churning of milk. The heart beat over a large space, and there was great epigastric pulsation. The carotids pulsated largely, and emitted a loud bellows sound. He could only lie with his head well raised, and his breathing was easily rendered difficult by any exertion. The urine was scanty, and the secretions depraved. Dropsical symptoms now became prominent, and diuretics, with mercury, sometimes reduced the swellings of the lower extremities—sometimes only kept them at bay—but at length failed, and effusion was but too evident, both in the abdomen and chest. The liver, too, was found to be enlarged.

No medical man, of experience, could look at this poor youth, with organic disease of the heart and liver —with legs ready to burst—abdomen fluctuating. and with one side of chest at least (the right) containing water—with the kidneys refusing to act—the intestinal evacuations highly disordered and the patient himself scarcely able to breathe in the semi-erect posture—no man could contemplate this picture, and venture to give the slightest hope of recovery to the friends—or even that life could be protracted for some weeks.

As the whole class of diuretics had been tried, one after another, without making any impression on the urinary organs, that channel of evacuation was broken up, and elaterium, with calomel, was exhibited. The effect was surprising—and was soon afterwards witnessed. It soon cleared out the whole of the water from the cavities and cellular membrane—and enabled the kidneys to act by means of the mildest diuretics. Again and again the symptoms returned; and as often were they removed by the same means. The disease of the heart remained, of course, in statu quo.

After one of the clearings out by the elaterium and mercury, Nature appeared to make a vigorous effort against fearful odds—the dropsical effusions did not return—the appetite became good—the urine natural—and the secretions healthy. He now shot up in growth so fast, that every month he appeared to be an inch or two taller. He even assumed a healthy aspect of countenance—and could walk some miles without inconvenience. All this time, the heart presented the formidable or rather frightful phenomena described at the beginning of the case.

He determined on a profession, and embraced that of medicine. He was articled to Mr. Chinnock, his own medical attendant, who now became his master. This was on the 31st March, 1835. The improvement in his general health was for the first four months most remarkable, he took fish alternate days only; he religiously avoided animal food, and lived principally on vegetables and farinaceous food. He grew very considerably during this period, and a corresponding developement was observable, the mind was remarkably active. He entered into the mysteries of the profession with much enthusiasm, the physical signs of disease still continuing, although not so strongly marked.

In the month of October of last year, the inconvenience of the heart began again to tell, and he was finally obliged to leave his kind and indulgent preceptor, and take refuge, once more, under the roof of Mrs. Hurley—a lady who, in the absence of father and mother, had proved herself to be more than both to this amiable youth—nursing him day and night, till the last day of his existence. The dropsical swellings returned again—the breathing became distressing—and all remedies failed. The legs were punctured by Mr. H. J. Johnson—and, for one or two nights, he slept comfortably. The dyspnœa again became pressing, and again the legs were punctured; but with little relief. He expired after great sufferings, on the 13th December.

The body was examined on the day after decease, by Mr. Henry James Johnson, in the presence of Mr. Clifton, Mr. Chinnock, and Dr. Johnson. The appearances were noted by Mr. Johnson, as follows:—

Post-Mortem Appearances.

The lower extremities were œdematous to a considerable degree.

Thorax. In the *right* pleural cavity there was a large quantity of serous effusion of a dark colour, without albuminous concretions, or any decided traces of recent inflammation. The lung was in some degree compressed by the effusion, but exhibited no material alteration.

The costal and pulmonary pleuræ on the *left* side were closely united by almost universal adhesions, the cellular character of which shewed that they had existed for some time. The lung exhibited nothing remarkable.

The cavity of the pericardium was obliterated by the general and intimate adhesion of the two layers of that membrane. The adhesions were mostly cellular and extremely close.

The heart itself was enormously enlarged, and, as usually happens, rounded in its form. The cavities on the *right* side were dilated, with but little hypertrophy of their parietes. The *left auricle* was in a similar condition. The *left ventricle* was both dilated and hypertrophied, the hypertrophy being principally marked in the thickness of the ventricular septum, and the magnitude of the columnæ carnæ.

The valves, and the great vessels were

unaffected with any appreciable alteration.

Abdomen. There was a moderate quantity of dark cerum in this cavity.

The liver was very large, but apparently not altered in its structure. The spleen was rather large also. The kidneys were in a natural state, as were the remaining contents of the abdomen.

Upon minute inquiries, it could not be discovered that this young gentleman had ever suffered from acute rheumatism, or had ever presented any symptoms of pericarditis. Yet the pericardium was universally adherent to the heart by ancient connexions. The same was found to be the case with Mr. M'Kerrell, the unfortunate gentleman who poisoned himself with prussic acid in Regent-street. He never had had rheumatism, or any symptoms indicative of pericarditis.

In the case of Master Barnes, might not the progressive enlargement of the heart itself cause, by stretching, friction, and distension, this same adhesion? The not very unfrequent occurrence of pericardial adhesion, when not suspected, suggests the propriety of leeching and counter-irritation in hypertrophy of the heart, where no inflammatory symptoms are present.

Even the temporary recovery from such an alarming condition as this young gentleman was in, may teach us to be guarded in our prognosis, where there is youth on the side of the patient.

The strikingly beneficial effects of the elaterium and mercury, are worthy of commemoration; for at all times, it is desirable to relieve the urgent symptoms; and it is of great consequence to prolong life for a certain period, when we have no hope of curing the disease.

There is a lady now residing in Howland-street, aged 73, or perhaps more. She has had immense hypertrophy of the heart, with valvular disease, for many years. Two years ago, when the reporter first saw her, she was dropsical in chest, abdomen, and extremities. She had been repeatedly cleared of the effusions by elaterium and mercury, when all the more efficient diuretics had failed. The disease of the heart remains of course; but its effects, by which effects life is generally terminated, and always rendered miserable, are removed, from time to time, and the old lady gets so well as to indulge freely in the pleasures of the table, and even to mix in society. Then she abandons physic, and returns to Bromley, her usual residence. The dropsical effusions recur, and she comes to town, wondering that the doctor can only make a tempory, and not a permanent cure of her complaint! The wonder, on the part of the doctor, is that even a temporary truce, at her time of life, and under existing circumstances, can be obtained with such a formidable enemy!

In this case, as in the case of Master Barnes, the removal of the dropsical effusions by elaterium and mercury, invariably restore, for a time, the functions of the kidneys.

N. B. She was visited by me this week, and is so very well that she intends to return to the country forthwith. The irregularity of action in the heart is less than it has been for years—her breathing is free—and all dropsical symptoms have disappeared. She takes an eighth of a grain of elaterium, with two grains of calomel, twice a week. This medicine produces three or four copious watery stools, and keeps her nearly free from complaint.

J. J.

MEDICAL POLITICS.

We do not often take up the passing events of the day, because they are much better adapted to the weekly journals than to a trimestral publication. Where the subjects, however, are of great and permanent importance, we have not hesitated, as our readers know, to express our sentiments, and that with equal freedom and independence.

Three minor subjects have, for some time past, excited a good deal of attention in the medical world—viz: Pauper Practice—Coroner's Inquests—and Life-Insurances. We shall venture a

few, and but a few remarks on each of these topics.

I. Pauper Practice.

The profession has lately been rather scandalized by the exposures that have been made of its poverty. The pauper population is being farmed by the paupers of the profession. The *latter* sympathizing with the destresses of the *former*, and being, moreover, imbued strongly with philanthropy and political *economy*, have generously undertaken to attend parish paupers at a rate so low, that the annual sum for medicine and attendance, would not pay for one half of the snuff or tobacco used by the said paupers! When the parish, or rather the union of parishes, is put up—not to the highest, but to the lowest bidder, there is seldom or never a lack of contracting parties. The lowest is consequently taken by the Guardians or the Poor-law Commissioners, and then there are numerous remonstrances made through the medium of the daily and weely press, against the hard-heartedness of the Commissioners and the meanspiritedness of the successful candidates.

After paying some attention to this subject we have come to the conclusion that the charges against both the above parties are very much exaggeraied—and, moreover, that they are not always made with perfect freedom from motives of self-interest that will not bear a very rigid investigation. In respect to the Commissioners and Guardians, we really do not know in what other way they are to proceed, than by *public contract*—unless it is by the old way of *private jobbing*. If, indeed, they gave the contract to *any person* who offered the lowest tender, without official proof of qualification, then we would hold up our hands and voices against such procedure. But if, on the other hand, they admit tenders from none who are not legally qualified to practice by the established institutions of the country, we cannot conscientiously blame them for accepting the lowest scale of remuneration.

It will be said—it has often been said, that this system will induce many young gentlemen, fresh from the schools, to accept the low reward, in order, first to get experience, and ultimately an introduction to private practice in the unions. Granted. Is this not the case with nine-tenths of those who give their *entirely gratuitous advice and attendance* to the poor in our innumerable Dispensaries, Hospitals, and Eleemosynary Institutions?—For what do they offer *their* service—even without the 2s. 6d. or 3s. 6d. per head per annum? First for experience—secondly, for introduction or publicity—and thirdly and principally for money—the necessary consequence of the first two! We put it to the heads and the hearts of every one of our readers, whether or not this statement be correct. Not a single individual, we venture to say, can deny its truth. Then what becomes of the cry against those young men, who having expended large sums on their education, but being without capital to purchase practices or partnerships, accept of three or four shillings per head per annum, for attending the sick poor of a union—not with any prospect of *immediate* profit from the contract, but with the hope of an introduction—experience—and ultimately a settlement in the said union.

This introduction of a stranger into a parish or union of parishes is, we acknowledge, very unpleasant, and even detrimental to the resident practitioners. But how is it to be avoided? We have repeatedly adverted to the overcrowed ranks of the profession—and we ask those who advocate an increase of facilities in the education of medical practitioners, what is to become of the Neophytes, if they are to be brow-beaten and reviled for undertaning the drudgery of practice at a rate of compensation, which will scarcely supply them with bread and cheese, during the first years of their labours? These medical guardians of the profession are like so many Frankensteins, who first create beings, and then cast them on the world, not only without provisions, but with persecution and punishment!!

A plausible objection, indeed, is made

to these parochial NEOPHYTES, that they are without *experience*, and consequently that they must gather it among the poor. This is the case, God knows, with more than the parochial NEOPHYTES!! Experience must be acquired somewhere—and if a young man's chief hopes rest on the success of his practice among the humbler classes of society, we do not see any valid objection to this mode of debut, *after a proper education*. But here we would ask a somewhat searching question. If there be a lack of *experience* on the part of the young practitioner, fresh from the schools and hospitals, is there not a lack of *time* on the part of the old practitioners, who, while they have charge of parishes, have also the charge of a large circle of private patients? What is the consequence? Why that many of the paupers must often be attended by pupils, who have little or no medical education at all!

Considering the extent of the medical curricula at present insisted on, we are very far from stigmatizing the *inexperience* of those who have complied with the prescribed resolutions, and undergone the proper examinations. We very much doubt whether the pauper—perhaps even the opulent patient, would not be as safe in the hands of a modern ELEVE, who had just left the wards of an hospital, and the dirty work of dissection, as in the hands of an old Paris doctor, of the "*Ancien Regime*."

We have adverted to the disinterestedness of these complaints against the "UNIONS of PARISHES," and the arbitary divisions made by the Commissioners. Let us take a passage from one of the loudest of the complainants, Mr. Edward Manby, of East Rudham, Norfolk.

"Thus, if parishes A. B. and C. lie in a division marked by the Board as a Western division, and the person who, for many years has been the attendant on such parishes, happens to reside on the Eastern side of the line, those parishes are unceremoniously assigned to another practitioner, who happens to contract for the Western division, *thus depriving the original attendant not only of his parish attendance, necessarily of a large portion of his casual private practice, owing to his not visiting such parish so frequently as when in attendance on the poor.*"*

Here, then, we have the real state of the case—the real objects and ends of pauper attendance, let out inadvertently! Private and *emolumentary* practice is, in all cases the final object of *gratuitous* or parochial attendance! This is the fact, divested of all special pleading. We would, therefore, advise all our provincial brethren to be cautious in their appeals on these *tender* subjects, convinced, as we are, that they will not further their interests by such procedure, as we shall presently shew.

It is impossible, according to our view of the question, to condemn the contract for a *low rate* of attendance on the poor, without condemning also the *gratuitous* attendance on the same classes, in large towns, by the medical officers of our hospitals, infirmaries, and other charitable institutions. This cheap and gratuitous devotion of time and talent, hurts, no doubt, the private practitioner. But the state of society requires—and, we believe, the ultimate good of the community is promoted by the system in question. These, our opinions, are unbiassed and independent. We have nothing to do with pauper practice or parochial guardians or Poor-law Commissioners, and therefore we can *reason* on the subject rather than declaim.

We think there can be but one opinion on this principle, *that the highest qualification and the lowest expense*, should guide the choice of the medical attendant on the poor. The scale of remuneration is the lowest that can well be, and yet the provincial practitioners complain that numbers of medical men—qualified by law, are ready to close with contracts, by which their own private practice is injured in consequence of the introduction of strangers into their neighbourhood. Well, what do they pray for? An augmentation of the medical remunera-

* Lancet, 30th Jan. 1836, p. 711.

tion! What will—what *must* be the inevitable consequence of such an augmentation? Why, that the Commissioners and Guardians would be besieged by candidates for employment. Aye—and by men of first-rate education, equal, or indeed superior to the education of the physician and pure surgeon of the present day! But, if the very highest grade of education were objected to, and *experience* required, would that be wanting among the candidates? Not at all. There are more army and navy medical officers, now on half pay, than would supply all the unions in England!

If, therefore, the higher rate of emolument be conceded, by petition to the Legislature, the question will then be—not who is the lowest bidder, but who is the best qualified? And do the provincial surgeons imagine that any one of *them* will afterwards be appointed by the Commissioners and Guardians? If they do, they calculate without their host! The said Commissioners and Guardians, being first irritated against the local practitioners, and then supplied with ample lists of able and well-educated candidates, will *naturally*—perhaps, we ought to say, *properly* appoint those, who are unencumbered with private practice, to attendance on the poor.*

Thus, then, the provincial practitioners are steeping a rod in pickle to whip there own backs. By any petition to Parliament for increased remuneration, they will induce hundreds and thousands of a redundant medical population to rush through the portals of preferment, in order to catch at the prize, small as it may be! And thus, into every union in the kingdom, will be introduced a stranger, either of excellent modern education (a young man), or an experienced practioner, from the long lists of half-pay medical officers, who will unquestionably, in a very few years, cause the provincial surgeons to sup sorrow for their announced appeal to the Legislature!

But, it may be asked, would not an augmented scale of remuneration, and the appointment of highly-educated or long-experienced men, for the specific purpose of parochial practice, be beneficial to the pauper population itself? We answer that we believe it would. And if the provincial surgeons have no other object in view than to ameliorate the condition of the poor, *by deteriorating the condition of themselves*, why then we admire a liberality and disinterestedness which we so rarely meet, and advise them to proceed!

We have thrown out these observation from an impartial consideration of the question. We leave them for reflection to those whom they most concern. We declare, once more, that we have no self-interest in the matter, and that we are anxious only to direct the judgment of our brethren into a proper channel.

II. Coroner's Inquests.

It is not our intention to discuss the propriety or impropriety of medical coronership. We believe that a medical man, if he studied *law* as well as physic, would make a better coroner than the mere law coroner, as at present constituted. But if the coroner were a surgeon, a medical man must, after all, be called in to give evidence on oath to the jury—for surely no one will contend that the coroner himself should proceed to open bodies or analyze the contents of stomachs, and then return to the court and decide the points by his own *ipse dixit*. No. There must be *another* medical man, and the jury are bound to go by *his* evidence, rather than by the opinion of the coroner. We see this every day. In the case of the unfortunate Mr.

* Be it remembered that, by the present plan, the lowest bidder (provided he is legally qualified) can claim the contract, and the Commissioners have no choice. But, if the scale of remuneration be fixed, the choice of candidates inevitably falls to the the commissioners of guardians, and the established practitioners of the union will have no power to prevent the introduction of a stranger, by accepting the contract themselves!

McKerrell, who committed suicide in Regent-street, Mr. Gell, the Coroner, charged the jury, not in direct terms, but by indirect insinuations, to bring in a verdict of FELO-DE-SE, against the evidence of Dr. Johnson, who swore that he believed the deceased laboured under temporary insanity. Fifteen of the jury gave their verdict according to the evidence of Dr. J. and five, according to the leaning of the coroner.

Since, then, there must be a medical *witness* in most inquests, would it not be better that a medical man, well qualified in all medico-legal inquiries, should be appointed by the Crown, to superintend the examination of all bodies, and assist the cororner with his advice and testimony on all occasions? This appears to us to be the wisest plan, and most accordant with the spirit of of law and justice.

This, however, is not the question. We believe a petition to Parliament is in the course of signature, praying for compensation to medical men, who are called upon to give evidence in Coroner's Courts, for the loss of their time. We have taken a rather unpopular view of the *pauper question*, but here we fully agree with the petitioners in the propriety of their application to Parliament—though we doubt much whether the "collective wisdom" will deign to listen to the just prayers of the practioners. Members will be so immersed in fierce political contests, that useful bills will, in many cases, be cushioned. Still the attempt ought to be made.

Medical men, however, have considerable power in their own hands, on this point. A physician or surgeon, is bound like any other member of the community, to give evidence of such matters as come under his cognizance —and that without any recompence for loss of time. This is a duty which we all owe to law, justice, and the good of society. A surgeon is called in to a man who is shot in a duel, and dies of the wound. He is bound to give his testimony, without remuneration, like any other witness. He is paid, or supposed to be paid for his professional attendance on the patient, and for the judicial attendance in court, we do not believe he can claim any remuneration. But if the cororner desires him to proceed and examine the body, POST MORTEM, the case is entirely altered, and the surgeon may refuse to do so, without the slightest risk of penalty. In the *first* instance he is a witness of what he has seen, and he is bound, like any other witness, to give his evidence for nothing. But in the *second* instance he is *employed* by the Coroner to do work—to investigate a case—to furnish the Court with the result of that work, and he is just as much entitled to remuneration as the Coroner himself, or his clerk who takes down the depositions. This important distinction ought to be carefully made in any petition to Parliament, otherwise the prayer will be damaged—and the defeat detected by some of the legal members of the senate. The faculty should claim no compensation for parole or circumstantial evidence respecting any thing which fell under their observation casually, and *anterior* to the inquest. But they may fairly claim remuneration for every thing done by the request of the Coroner and the Court. We are quite sure that the Coroner cannot insist on any work or attendance of this kind—and therefore the medical man may refuse to do it, unless he is compensated for his time and trouble.*

III. INSURANCE OFFICES.

We observe that several members of the profession are turning their thoughts towards remuneration for answering the queries of LIFE-ASSURANCE COMPANIES. Perhaps this subject is not well considered—and we are confident that it has not been clearly expounded. A man thinks it desirable to insure his life for the benefit of his family. To effect this, he is bound to produce credible evidence, first of his moral character and habits—and, secondly, of his state of health. For the first species of evidence he refers to a friend—say

* Since the above was written, Mr. Wakley's bill seems likely to be successful.—ED.

his solicitor: for the second, to his usual medical attendant. It is the general custom for the applicant to wait upon these two referees, or to write to them, soliciting the favour of their answering the queries of the insurance office. Now here the favour is clearly conferred on the patient and client—not on the office. And if the doctor thinks himself entitled to a guinea, surely the solicitor or friend may claim a similar remuneration. No one of our readers suffers more loss of time—and that when it can ill be spared—than we do in this way; but we can see no remedy or recompence—save the sense of obligation, which may remain in the patient's own breast.

The insurance office cannot be expected to pay for documents which the proposer himself must produce as the basis of the transaction. The office has a physician and surgeon of its own to pay, who examine the individuals at the office, if in town—and the Company have to pay a guinea on every policy in the country, to their own medical agent. It cannot be supposed that they will agree to pay additionally for the evidence which the proposer himself is bound to furnish.

But there is a fatal objection to the proposal, which has not presented itself to the minds of those who advocate the payment of a guinea to the medical referee—it opens a door to fraud. There are frauds enough practised on insurance companies, without opening out an additional channel. There are unprincipled men in all professions—in physic, law, and perhaps even in divinity. Two people—say an attorney and a doctor—combine to tax the various insurance offices for their own benefit. A., the attorney, proposes a real, or perhaps an imaginary life, for assurance at the Rock or the Crown. He refers to Mr. B., the medical attendant of the proposer. Mr. B. states *in confidence* to the board, that the life to be insured is not a good one, as the patient had burst a bloodvessel some time previously, and is disposed to consumption The fee is, of course, cheerfully paid, and the Company congratulate themselves on having escaped a bad insurance, through the *candour and honesty* of the medical referee. Inviolable secrecy is preserved by the office. Such a scheme might be carried on for years with the various insurance offices in London, and that with very little chance of detection!

When we first heard of the question, the possibility of such a contingency as the foregoing occurred to us. And soon afterwards, when we heard the matter discusssed at an insurance office, we were a little surprised to hear one of the ablest actuaries in Europe declare his conviction, that such swindling transactions would be the inevitable result of a preliminary fee to a referee.

Before we quit the subject, we have a little bit of advice to give to our brethren, founded on no very limited range of observation, and knowledge of human nature and the world as it is. The medical profession has always been allowed, even by its enemies, to be an extremely *liberal* one, especially as respects pecuniary compensation. It is universally admitted, that the medical man is the only professional man who cheerfully dedicates his time and talents *quatitously*, to the relief of the poor—and that he is ever ready to succour distress, even among the *apparently affluent*, when he finds them labouring under the complicated miseries of sickness and pecuniary difficulties. This favourable impression on the public mind should be fostered rather than dissipated. There are many prejudices *against* the profession; but the foregoing one, in its favour, redeems many a fault, real or imaginary! We regret to see a disposition springing up, to place the medical man on a par with the lawyer and parson in respect to *legal* emoluments. Such a system will, most assuredly, deteriorate the medical character in public estimation. There is no rule but that of conscience and humanity to guide the medical practitioner. The patient is at the mercy of the physician or surgeon. He may kill or cure him! This, at least, is the general opinion. Nothing can be more conducive to the reputation of the faculty, or the prosperity of the individual member, than a conviction, on the part

of the community, that the safety of the patient is paramount to all other considerations—particularly of a pecuniary nature—in the mind of the practitioner.

The trifling advantages that may be gained by *legal exactions*, will never compensate for the loss that will be occasioned by popular prejudice. Many and many a time have we been actually and unequivocally cheated out of our fees and compensations; but we never dreamt of going to law on these occasions. There is a maxim, "that he who once *injures* you will afterwards hate you." This, we believe, does not hold good in respect to *cheating*. We have often traced some of our most valuable connexions to the recommendations of those who acted unjustly towards us themselves!

There are some no doubt, who have amassed large fortunes in practice, and who have had the character of being mercenary Jews throughout life. They are dangerous examples to follow. Perhaps they would have done still better, had they imitated the liberality of a Cline, a Baillie, a Babington, or a Cooper. These men, we believe, never hunted after fees, or squeezed every guinea that they possibly could out of the pockets of their patients. As honesty is the best policy in the common concerns of life, so liberality is profitable, *cæteris paribus*, in professional avocations. So at least, we have found it.

METROPOLITAN UNIVERSITY—MEDICAL REFORM.

IT is not very long since we were subjected to unmeasured ridicule, for suggesting the idea on ONE GOVERNING BODY, (by whatever disignation characterized,) empowered to regulate the curricula of medical education—examine the candidates—and confer diplomas.* The plan then projected does not appear so unfeasible now, as it was two years ago. Something of the kind seems to be in contemplation by Government, while strange to say, those contemporaries who ridiculed us, at that time, now claim the merit of having always advocated the measure in question! Yes. There are CONFORMERS in medical, as well as in general politics—men who anathematise any measure that is unlikely to take place—especially if it militates against their interests or inclinations; but, who veer round with the tide of circumstances, and boldly proclaim themselves the advocate of that which they formerly denounced!

Our bitterest adversaries have never insinuated that we had any personal motives, either of ambition or lucre, in the course which we have pursued in medical politics. To us it is perfectly immaterial, whether Whig or Tory—aristocratic or popular principles, gain the ascendant. Our interests are totally distinct from, and independent of, medical politics. This is now so well known, that we defy the breath of censure to impugn the statement. But we claim the liberty of advocating those principles which we sincerely deem to be just—and the more so, as the advocacy cannot be deemed mercenary.

KNOWLEDGE as far as medicine is concerned, is of two kinds—distinct in their nature, and still more so, as regards the mode of their acquirement. The one is *general*, or literary and scientific—the other is *professional*. The first is preliminary, and includes languages, mathematics, and the elements of useful knowledge—the other is MEDICAL, which includes, of course, the whole range of professional studies—anatomy, pharmacy, therapeutics—clinics—and the various other branches of the healing art. The PRELIMINARY education may be acquired any where—in the back attic of a private house, as well as in the "academic bowers and learned halls" of a university. Hundreds of individuals have become profound linguists and mathematicians, without any tuition at all—merely by their own application to books. The PROFESSIONAL education, on the contrary, can *only* be learnt (in a private manner at least) from those who

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have previously studied it—and *only* in certain places, where the means of teaching it are amply collected, and arranged.

The *preliminary* branch is distinuished from the *professional*, by another characteristic feature. It can be tested accurately by a public or private examination. The other cannot be so tested, as will be presently proved.

Now, if these propositions be founded in truth, and they will hardly be disputed, it follows, according to reason, justice and sound policy, that the *source*, or the *means* of acquiring the preliminary education, especially of medical men, should form no part of inquiry—but only the *amount* of that knowledge, seeing that it can be acquired anywhere, and that its amount can be ascertained with the greatest precision, by the test of examination. Would it not—will it not be a sad blot on the liberality and intelligence of the nineteenth century, if it be determined that Greek, Latin, and mathematics, if learnt at Harrow, Westminster, or any other seminary of education, shall not be considered as good—*if of the same amount*—as that which is acquired in the neighbourhood of Somerset Place, or St. Pancras? Will not such a distinction be a plain indication that the legislator aims not so much at the actual possession of the *preliminary* education, as at the power of conferring a monopoly on particular schools? The inference is as clear as the sun at noon day?

A rumour (we hope unfounded) prevails, that such a distinction will be made—and consequently that a monopoly will thus besecured to the present LONDON UNIVERSITY and KING'S COLLEGE!* If such an invidious distinction—if such an odious mark of favouritism should be established by LAW (for JUSTICE is out of the question) under the auspices of a Government distinguished from all preceding governments, for enlightened views and liberal sentiments, it will be an anomaly that can only be accounted for by want of reflection on the subject, or by treacherous and designing councillors! Such a procedure will be reprobated by ninety-nine of every hundred medical men in the United Kinndom—a class of His Majesty's subjects which is neither destitute of intelligence nor influence—even in political matters. The physician and surgeon have access to all ranks and parties—and that, at times, when reason is listened to more calmly than at most others—on the bed of sickness. Such a partial, unjustifiable, and invidious piece of legislation, as the above, would rankle in the breast of every liberal member of the profession, and would be soon manifested in the senate.

Even if it were desirable that the two colleges in question were recognized as the only seminaries qualified to turn out candidates for the Bachelorship of Arts, still it would be a great injury to the schools of medicine in the metropolis to render such a degree imperative on the medical student—and for this obvious reason, that the two colleges are *also* medical schools, and would thus have an immense weight of favour thrown into their scale. The only way to avoid this glaring injustice would be to insist on a good classical and mathematical education on the part of the medical aspirant, leaving him the option of acquiring

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* What liberal mind can fail to grieve at seeing the dying embers of bigotry blown upon by certain portions of society—as at Oxford and King's College! Will it be believed that the sapient big-wigs of the *latter* establishment have objected to Professor Ritchie, Dr. Webster, and Mr. Kiernan, becoming candidates for medical and philosophical professorships—on acconnt of their RELIGIOUS CREEDS!! An infidel or an Atheist, who would subscribe to the infernal code of his Satanic Majesty just as freely as to the 39 Articles, would be received as a candidate, at King's College, without the slightest objection. But a conscientious believer in Christianity is pushed from the arena—because his creed differs, on some mysterious and incomprehensible points, from the orthodox code!! Shame on those who vainly attempt to roll back the tide of religious liberty from the nieteenth to the ninth century.

that education where he pleases. Even on this liberal basis, there will still be a considerable advantage on the side of the two colleges, on account of their being general as well as medical schools.

The PROFESSIONAL EDUCATION stands on quite a different footing. It cannot be properly attained through the medium of a private tutor, or by any, even the most extraordinary attention to books. It can only be acquired in the lecture-room—the dissecting room—and in the wards of a public hospital. It cannot be *completely tested* by any examination before a Board of Examiners. It REQUIRES ADDITIONAL CHECKS AMD AUXILIARIES. From no limited observation and experience, we are convinced that the channels of PROFESSIONAL KNOWLEDGE should be clearly and distincily marked out by the Legislature—and that authentic and honest proofs should be adduced by the candidate for medical diplomas, that the said professional information did flow through these RECOGNIZED CHANNELS. Here we make our stand. Here we join issue with our ultra-liberal contemporaries.

The only CONDITION on which a medical school should be *recognized*, appears to be this—ITS CAPABILITY OF AFFORDING ADEQUATE MEDICAL INSTRUCTION, as determined by a liberal and honourable Board. We have heard it urged, indeed, by some of our contemporaries, and by men whom we greatly esteem, that the source and means of PROFESSIONAL acquirements, should not be inquired into, and that the only test should be EXAMINATION. These men, we firmly believe, are deceived—or have not a sufficient knowledge of the subject. We would ask these men how a student can be *properly* tested by an examination in anatomy, chemistry, surgery—and more especially in CLINICAL knowledge by such examination! It is utterly impossible! We grant, indeed, that *examinations* might be made much more efficient and searching than they now are; but still they would be grossly imperfect, without the aid of other checks, which will be presently pointed out. A student may, by dint of hard study, and the aid of a GRINDER, be capable of describing the origin and insertion of every muscle—the ramification of every artery—and the distribution of every nerve—and yet, if taken into a disscecting room, he might be scarcely capable of distinguishing the sciatic nerve from the sartorious muscle! He may be able, from books and grinding, to lay down the diagnosis, prognosis, and treatment of every disease in Good's Nosology, and yet, if taken into the wards of an hospital, he might not be capable of distingutshing small-pox from meazles. This is no caricature. The Editor of this Journal knew an instance of a young gentleman, some 37 years ago, who, without ever having attended a single lecture—without ever having had a dissecting-knlfe in his hand, passed an examination in LINCOLN'S-INN-FIELDS, with such eclat, that he was called back into the Board-room, and publicly complimented on his great proficiency in anatomy and surgery! This was at a time when testimonials of attendance on lectures were not demanded for "surgeon's mates," as they were then called, in the Navy. True, this was a remarkable, but by no means a *singular* case.*

We are well aware, at the same time, that the "CERTIFICATE SYSTEM," as it is called, is a very fallacious one—and that dunces, drones, and idlers are every day *certified* as industrious, and well-qualified pupils. This is the *abuse*, and not the *use* of the system. It may be made a very efficient system, by proper regulations. But an abolition of this same "certificate system, bad as it is, would convert every Grinder's garret into a school of medicine, and a memory crammed with technical terms would too often be substituted for sound, but laborious knowledge.

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* For the credit of this gentlemen, he quickly left the service—took eagerly to his studies—and afterwards distinguished himself as a surgeon in this country.

The primary and most important tests must ever be in the lecture-room, the dissecting room, and the wards of an hospital. And the instructors in these places can be very effectually prompted to the task of regularly examining their pupils at stated periods,—simply by non-recognition of the certificates from those who refuse to comply with this regulation. The tutors of King's College, and of many other seminaries of instruction, examine their pupils at stated epochs, and record their progress, and regularity of attendance. Why should not medical tutors, who are far better paid, adopt the same course? It must come to this at last. These minor public examinations would have another good effect. It would train the pupils for a still more important aud public examination at the close of their studies.

In respect to the RECOGNITION of medical schools, much need not be said—because much has been said to no good purpose. If a proper system of examinations be established, the minor and inadequate schools will soon be extinguished by a natural law. They will not sink by *gravity;* but they will float on the surface, like bubbles, and soon burst, by the breath of public opinion.

Now let us, for a moment, discuss the subject of PUBLIC EXAMINATIONS. We have conversed with many of the most distinguished physicians and surgeons, on this point, and the all but universal answer has been—"Oh! the nerves of *English* pupils would never stand the brunt of a PUBLIC EXAMINATION." The blood has boiled, with indignation, in our veins, at hearing this declaration;—and we have, more than once, retorted, in sharp language, that *English* nerves, and English moral and physical courage, are at least *equal*, to the same nerves and courage in other countries, where these examinations are public! We have heard this enunciation from the mouths of surgeons who have fearlessly stood to their duty under the showers of balls from Napoleon's victorious troops among the mountains of Spain,—and on the plains of Waterloo! No. The British candidate will not shrink from a PUBLIC EXAMINATION; but the superannuated EXAMINER will endeavour to throw the cloak of cowardice over the pupil whom HE is afraid to examine in public! This is the plain *English* of the matter. Where do we find, in this world, people more tender of the reputation of their neighbours, than of their own! No where! In a PUBLIC examination, the fairness or unfairness of questions is submitted to the general sense of the profession; and if the examiner comes to the arena, CRAMMED with minute and *specific* puzzlers, which he has previously drawn from *books*, he will be scouted, as he well knows, by any candid listener. And here we would ask why the examination of medical students should be conducted on principles differing from those which are adopted at our most celebrated universities!—Why should not a series of written questions be submitted to the candidate to fill up, as he best can, in a room where he shall have no access to books or men! It could not be said, in this case, that the EXAMINEE would be terrified by a public examination. This would, most undoubtedly, be the fairest and the surest way of guaging the amount of a candidate's knowledge—and it would be attended with this advantage, that no cavil or quibble, could be afterwards made use of, by the rejected candidate or examiner. There the questions and answers stand on record, and, if demanded, they can be published in an authentic form. It is a hypocritical mockery of justice to tell a rejected pupil that a *viva voce* examination will be published,—if he particularly desire it. By whom is it published? By the examiner himself, who would thus have the power of shaping and modifying the questions and answers according to his memory, or rather his inclinations! There can be little doubt that in such a procedure, the examiner would evince a wonderfully retentive memory of all the *fair* questions which he put to the Neophyte, and of the *faulty* answers that were returned;—perhaps, too, his recollection would prove sadly treacherous in respect to the reverse of

the picture! Why should not all this be obviated by the LITERA SCRIPTA—the written questions and answers? We can imagine no valid reason against this plan, especially as it is sanctioned by experience in both Oxford and Cambridge.* Nay, we would go farther. We would insist on medical teachers producing, with their certificates, a *tentamen* of this kind, on a smaller scale, executed in the schools of medicine.

And here we would demur, most conscientiously, to the validity of those objections which are strenuously urged against the admission of hospital physicians and surgeons, as well as lecturers, into the composition of the examining body. Such an exclusion would be highly detrimental to the interests of science. The men thus proscribed are those who are best qualified to test the candidates in the minute elementary knowledge which alone such candidates can be expected to possess. The very circumstance of being engaged, for years, in extensive private practice, would incapacitate the most talented private practioner for the task of examining minutely into the acquirements of the candidates in anatomy, chemistry, botany and other branches of elementary knowledge. If the examinations were conducted in public, or in the written documentary manner which we have described, no unfair play, personal jealousy, or partiality could possibly influence the acceptance or rejection of the dandidate. But while we would not exclude these public functionaries, we would include a fair proportion of private practitioners to be present at the decision, and join in the examination, if they pleased. It would, indeed, be monstrous to exclude a man from *testing* elementary knowledge, *because* he is in the eaily habit of *teaching* it in all its minutiæ!

Many conjectures are afloat, and many schemes have been broached, as to the organization of the projected Metropolitan University. We have a right to offer our plan, as well as our neighbours. It is true we have not much voice in the state—but we have lived long enough to be able to form some idea of the wants as well as the wishes of the profession.—Were we called upon for an opinion—of which there is extremely little probability—we would thus sketch the outline of the projected establishment.

We would suggest that TEN of the most distinguished men in each of three present departments of the profession should be selected by the Crown—the THIRTY to form the "SENATUS MEDICUS ACADEMICUS." Six of these, two physicians, two surgeons, and two apothecaries—to form a sitting committee, for organizing the establishment, drawing up rules and regulations, &c. Half of the SENATUS to go out every three years, their places to be filled up by the Crown—or by election. The SENATUS ACADEMICUS to hold a Court of Examination every three months—viz: once a week for three weeks, at the beginning of each quarter, in order to effect three examinations of each candidate.

The above, we think, might form the basis, or skeleton of the organization, leaving all details to the collective wisdom of the SENATUS. We conceive that a triennial elevation of fifteen members of the medical profession to the highest honours of medical science, would be a greater stimulous to laudable ambition than any which now exists.†

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* While writing these lines, we were informed by one of the most influential members of the Council of the College of Surgeons, that the Court of Examiners of that Body, is meditating on the plan in question—the examination by written questions and answers. We need hardly say that we were not a little gratified by this intelligence.

† As the honour would be great, the emolument should be very moderate. It might be advantageously regulated by the principles adopted at Public Boards, such as those of Insurance Companies—"namely, no work. no pay." Those only should receive any compensation for their time and labour who dedicated these to the actual working of the machinery.

But it may be asked, if such a scheme were to be put in execution, what is to become of the three existing corporate bodies in this metropolis? If filthy lucre be their claim to life—buy them up, or pay them off. Let every existing corporator have, during his life, an income out of the new revenues derived from examinations, equal to their average income from the present system. Let the Fellows of the College of Physicians be paid a sum equivalent to their present profits—we imagine that such a sum will not impoverish the state!—The same with the other bodies. They all say that their duties are heavy labours and responsibilities, for which they have no adequate remuneration.

If these Bodies continue to execute their present functions, then we say that the erection of a METROPOLITAN UNIVERSITY, will be a work of supererogation, and a needless expense to the state as well as a burthen on the profession. If an examination by the SENATUS ACADEMICUS does not entitle a man to practise his profession in this country—if he must aftewards go to the College of Physicians, and the Apothecaries' Company, for another examination and a License—then we say that such a MONSTROUS ANOMALY never was erected in any age or in any country!!

It is to be recollected, however, that there is now no real *compulsion* to pass the ordeal of the College of Physicians and the College of Surgeons. The Charter of the first is absolute by time—and that of the other has no other power than the power of OPINION. The College of Surgeons is the only *surgical* tribunal—and its testimony is the only one which a medical practitioner can adduce as a passport to the higher grades of surgical practice. The student consequently resorts to it. But if a HIGHER tribunal be erected, who we ask, will consult the *inferior?* The Society of Apotheraries, then, is the only *legal* stumbling-block to the new SENATUS. But we have seen that Chartered Corporations have been swept away, not by tens or twenties, but by hundreds. And we see no reason why one single, self-elected, pharmaceutical corporation which, by accident, has usurped the highest legal control over the profession, should be suffered to resist the current of improvement and reform.

We have always admitted that the Apothecaries's Company has done more good, and has advanced the qualifications of the general practitioner higher than either or both of the other two Corporations—by gradually extending the period and amount of Medical studies. For this they deserve the highest praise. But we contend that the power of doing this good has been vested in the wrong place. It ought to be entrusted to one supreme and paramount tribunal—not to one which superintends a single department of the profession. We claim an equality—perhaps a superiority over other countries in intelligence—arts—and science. And yet we are infinitely inferior to them in the organization of those institutions which direct this intelligence—as far at least, as medical science is concerned!

We think, indeed, that it is high *time* that the multitudinous, discordant, and unequal medical institutions of this great country, should be incorporated into one uniform, efficient, and liberal SENATE, empowered to legislate for the United Kingdom—Scotland and Ireland, having of course, their separate senates, but only as branches of the parent institution, and acting in strict conformity with it.

What modifications of the present order of things in the profession may result from the New University, and Mr. Warburton's Bill, we have no means of judging. The following extract from a paper published just two years ago, contains suggestions which subsequent reflection has not induced us to alter.

"*First*, we would suggest that no one should enter on the career of his medical studies before the age of eighteen, when, if designed for general practice, he should undergo an examination in classical and general knowledge prior to his

apprenticeship" This apprenticeship we would limit to two years—especially in the country, where lectures could not be attended. At the age of twenty, his general medical studies should commence, and be pursued through three academic years in any recognized school within the limits of Great Britain, allowing one or two years of that time, if desired, to be spent in any proper foreign school. At the age of 23, a public examination in medicine, surgery, midwifery, pharmacy, &c. should be passed before a faculty or board, composed of physicians and surgeons. This rigid tentamen over, he should have a diploma or degree conferred on him, with the designation of 'ORDINARY PAYSICIAN,' entitling him to practice any or all branches of the profession *ubique terrarum*, or at least throughout the British dominions.

Secondly, those who aimed at a higher grade, and who wished to earn it by a more extended and expensive education, general and medical, might be indulged —and possibly without disadvantage. Such aspirant should not be allowed to enter on the professional curriculum till the age of 20, at which period he should undergo a strict examination in Greek, Latin, mathematics, and general knowledge. His medical curriculum should embrace six, or at least five, years of clinical and preceptorial studies, two of which might be allowed to foreign schools. His examination should be the strictest of all, and in public, after which he might go out either in physic or surgery, as he pleased—and have a degree, conferring on him the title of 'GRADUATE PHYSICIAN' in the one case, or 'DOCTOR IN SURGERY' in the other—or, if both, 'DOCTOR IN MEDICINE and SURGERY.'

Thus there would still be two, if not three designations; but the education of all would experience a very considerable approach to amalgamation. The 'ORDINARY PHYSICIAN' should always have the option of passing into the class of PHYSICIAN EXTRAORDINARY, or GRADUATE, by addition of study, or rather by undergoing the examination imposesd on the latter originally.

As men may work with their own tools, so the ordinary physician might be permitted to furnish his own medicines to his own patients, but not to sell them, and not to charge for them as a whole, but as a part of the remuneration for skill and attendance This will be the most difficult point to settle, whether by the Legislature or the individual practitioner. We are as firmly convinced as ever, that the general practitioner, or as we propose to designate him in a new order of things, the PHYSICIAN IN ORDINARY, will never attain the height of respectability and of satisfaction in his avocations, till he can charge *entirely* for his skill, without having any thing to do with the actual dispensing of medicine. But, as opinion runs contrary to this, especially in the country, let opinion have its way. A day will come, we apprehend, when the practice of physic and surgery will be entirely independent of the practice of pharmacy. Till then, some improvement may, perhaps, be made on the present plan. Suppose the legislature were to enable the general practitioner to charge from 3*s*. 6*d*. to 5*s*. for his daily attendance, or where daily attendance is not necessary, for his separate visits—with a margin of 1*s*. 6*d*. to 2*s*. 6*d*. for medicines furnished, according to the nature of the case;—we think that such a scale of remuneration would be infinitely preferable to the present one, where the whole expense of a sickness comes in at the end of the year, in the form of a bill of parcels, throwing the medical skill and attendance entirely out of sight, and merging all in the gross, and often nauseous, *materiel* which the patient has swallowed during his confinement!!"*

We would still adhere to the above suggestions, and we submit them respectfully, but confidently, to the Government, to Parliament, and to the forthcoming SENATUS MEDICUS LONDINENSIS.

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* Med. Chir. Review, April 1834.

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☞ *This is the result of considerable labour, and interspersed with caustic criticisms and remarks, that will render it a piqant treat to every* F.R.S. *in England.*

12. On Insanity; its Nature, Causes, and Cure. By W. B. NEVILLE, Esq. Octavo, pp. 192. Feb. 1836.

☞ *This is a very scientific compendium, evincing considerable research and sound judgment. There are many original and judicious observations, in this volume, on therapeutics. In our next Number we shall adduce a very interesting extract, respecting large doses of soda in indigestion.*

13. A brief Memoir of Sir William Blizard, F.R.S. &c. By WILLIAM COOKE, M.R.C.S. Octavo, pp. 67.

14. A Letter to the Chairman and Guardians of the Chelmsford Union, relating to Medical Attendance.

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15. An Essay on the Laryngismus Stridulus, or Croup-like Inspiration of Infants. To which are appended, Illustrations of the General Principles of the Pathology of Nerves, and of the Functions and Diseases of the Par Vagum and its principal Branches. By HUGH LEY, M.D. Physician to the Westminster General Lying-in Hospital, &c. &c. Illustrated with Plates, 1 Vol. 8vo. pp. 480. March, 1836. Churchill, London.

☞ *We regret that this Work came to hand after our Review department was closed. It is one of the most important essays that has appeared in this country during the present century. We shall dedicate two or three extensive articles to its analysis in our succeeding Numbers.*

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16. A Manual of Medical Jurisprudence and State Medicine, compiled from the latest Authorities, &c. By MICHAEL RYAN, M.D. &c. Second Edition. Octavo, pp. 533. Gilbert, Piper, and Jones. February, 1836.

☞ *The indefatigable author of this Manual has employed great labour and talent in the construction of this work; and a new edition demonstrates the favourable reception which it has met with from the Public.*

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17. A Letter to the Reform Corporations on the Necessity of electing Medical Coroners. By GEORGE ROGERSON, Surgeon of Liverpool.

☞ *We have stated our own sentiments on this point in another place.*

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18. A Treatise on Epidemic Cholera, as observed in the Duane-street Cholera Hospital, New York. By FLOYD T. FERRIS, Esq., with three beautifully-coloured Plates.

☞ *The disease has now lost all interest in this country, to which it is very unlikely to return.*

19. On the Analysis of the Blood and Urine, in Health and Disease; with Directions for the Analysis of Urinary Calculi. By G. A. REES. Octavo, pp. 187. Longman and Co. March, 1836.

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20. A Report on the Medical Management of the Native Jails, throughout the Territories subject to the Governments of Port William and Agra. To which are added, some Observations on the principal Diseases to which Native Prisoners are liable. By JAMES HUTCHINSON, A.M. &c. Octavo, pp. 107. Calcutta, 1835.

☞ *This little work will afford very useful materials to the Indian practitioners; but is not calculated to interest the faculty of this country. We shall give an extract or two from the volumes in our next Number.*

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21. New Treatment of Malignant Diseases, and Cancer without Incision. By A. M. BUREAUD REOFREY, M.D. Octavo, pp. 78. Longman and Co. 1835.

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22. Education Physique des Jeunes Filies, avant le Marriage. Par A. M. BUREAUD REOFREY, M.D. Octavo, pp. 338. Dulau, 1835.

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23. A Treatise on Pulmonary Consumption. By ROBERT LITTLE, M.D. Professor of Midwifery, &c. in the Belfast College, &c. Octavo, pp. 160. Longman and Co. March, 1836.

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24. The Physical and Intellectual Constitution of Man considered. By EDWARD MERYON, F.R.C.S. 8vo, pp. 240. Smith, Elder and Co. March, 1836.

☞ *On the Plan of Dr. Pritchard's great work. The essay is very creditable to Mr. Meryon.*

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25. A Lecture on the Elements of Physical Education. By LOUIS FRECHET. Octavo, pp. 36.

EXTRA-LIMITES.

NORTHWOODS LUNATIC ASYLUM.

We are requested to insert the following letter, containing a prospectus of a new establishment for the insane, lately erected by Dr. Fox, at Northwoods near Bristol:

Berkeley Square, *Bristol.*

I beg leave to submit to your consideration the following Prospectus, together with a sketch of a residence newly erected for the reception of a limited number of Insane Patients, and to be restricted to the more respectable classes of society. The building is finely situated upon an eminence, about seven miles from Bristol on the old road to Gloucester, has a south-eastern aspect, and combines great cheerfulness with perfect retirement. Considerable expense has been incurred in the architectural design, as well as in the internal decoration and arrangement, in order to remove from the minds of the Inmates the unpleasant impressions usually connected with such establishments.

In the *construction*, it has been a most important consideration to provide for perfect security from fire, by substituting iron joists and composition floors instead of wood. The fatal experience of at least two county asylums has rendered this caution almost imperative.

The Panopticon principle has been adopted to the fullest extent compatible with comfort and security. The whole front of the building, which commands a beautiful and extensive prospect, is entirely devoted to the patients; and the superintendent's room is so situated as to allow the most constant and vigilant control to be exercised over the proceedings of the patients and their attendants, as would evidently appear upon a personal inspection. The most entire safety for those who may be resolutely bent on personal injury to themselves, forms a prominent feature in the internal arrangements; and such as reflect on the many valuable lives which have been sacrificed to the want of timely precaution, will know how to appreciate preventive measures.

The apartments of the patients are under the same roof, and in immediate connexion with the family, producing the desirable impression of a domestic circle. Particular attention is paid to the accommodation of invalids, whose delicacy of health requires extreme care and quietude, by means of cottages suitably provided for their reception. Almost adjoining the cottages, and at the distance of a quarter of a mile from the establishment, is a spacious, modern, family house, appropriated to the purpose of completing the recovery of invalids, whose convalescence is so far advanced as to render unnecessary the restrictions demanded by actually existing disease, but whose amendment is not sufficiently confirmed to justify a return to their families, without a danger of relapse. The two buildings combine the greatest advantages for the permanent restoration of health, with the least possible pain to the feelings; since, as soon as the natural susceptibility to painful impressions returns, the invalid is removed from their contemplation.

Spacious and enclosed airing grounds and extensive colonnades, attached to the building, afford ample opportunity for air and exercise; and with very few exceptions, arising from their peculiar state, the patients are permitted to range over the whole extent of the plantations, pleasure-grounds, and

farm, accompanied by a careful attendant;—an advantage seldom attainable in a private dwelling.

The property is one mile in extent, and consists of two hundred acres of fertile land, without a public thoroughfare; affording great facilities for walking, riding, or carriage exercise, and the amusements of agriculture and gardening, without liability to personal exposure. Horses, with a close and an open carriage, are kept for the accommodation of patients, who are from station and habits accustomed to such resources.

The *treatment* of the patients is founded on a system of uniform kindness and tenderness, according to the principle so successfully pursued by that distinguished French physician, M. Esquirol. The limits of a Prospectus admit only a general description of the method of cure, of which the prominent features are the following:—*separation* of the patients from their immediate relatives and friends, whose kind intentions become too commonly sources of aggravation;—the *association* with invalids under similar circumstances of removal from their ordinary habits and connexions. which experience has proved to be a most important instrument of cure;—*constant occupation*, both agreeably and beneficially adapted to the state of the mind and body; together with such mental and moral treatment as may be most appropriate in each case. Seclusion in the chamber is the only restraint permitted, and this invariably requires the sanction of the superintendent. The most perfect division of the sexes, and the separation of those invalids whose state renders them unfit for social intercourse, from others whose welfare and comfort would be obstructed by indiscriminate association, have been objects of the most careful attention.

It is necessary to witness, in order duly to appreciate, the cheerfulness and complacency which, under such circumstances, generally characterise the social intercourse of the inmates.

The Establishment is under my own particular care and inspection, and the immediate superintendence of a widow lady, whose active benevolence, experience and judgment, peculiarly qualify her for the important undertaking.

The service of the Established Church is performed every Sunday, and those who are in a fit state are permitted to join the family prayers every morning.

I may truly observe, that in the course of a long experience, I have never known a person, however trustworthy, to whom an insane patient might safely be confided, without the control of a watchful superintendent to decide upon the necessity of restraint, and to regulate its degrees; indeed the power of constraint should never be entrusted to the personal attendant who has the immediate care of an insane patient. The convenience and interest of such persons are so constantly at variance with the welfare of the invalid; and it is so natural for them to persuade themselves of the expediency of measures, which appear to combine greater security to the patient with less trouble to themselves, that they are very inadequate judges, *however experienced*, of the course proper to be adopted. I am of opinion, that no case of insanity should be considered as incurable, without distinct evidence of mental imbecility: and that, as all disorders of the mind are more or less dependent upon bodily disease, beyond the immediate influence of medicine, most important benefits result from the power of uniform habits of exercise, diet, diversion and occupation, properly regulated, over the removal of such causes of complaint.

I am further anxious to impress on your especial notice, that the object of

this establishment is the CURE of insanity, by means attainable only in such an institution; inasmuch as one of the most important and successful remedies depends upon the intimate association of persons brought together by a similarity of circumstances, calculated to beget mutual sympathy, regard, and confidence.

In conclusion, I beg to direct your particular attention to the acknowledged fact, that recoveries in a far greater proportion occur in well-regulated asylums for the insane, than under any other circumstances; that the building is not constructed to contain more than thirty patients; and therefore, independently of its peculiar arrangement for the purpose of constant superintendence, allows of a degree of particular watchfulness, which cannot exist in a very extensive establishment; and that I have been induced to engage in the present undertaking from a persuasion, as far as my knowledge and inquiries extend, that there is no establishment of a suitable description, where the class and number of the invalids are restricted; and that there has been long existing a demand for such an institution, to meet the necessities of the higher classes of society.

It may be satisfactory to mention, for the information of those to whom I am unknown, that I am a graduate of St. John's College, Cambridge; late President of the Royal Medical Society of Edinburgh; fifteen years Physician to the Bristol Infirmary; and more than twenty years Physician to St. Peter's Hospital, to which is attached the Lunatic Asylum for the city and neighborhood of Bristol: from which last two offices I have not long since retired. Additional claim to confidence might be advanced, from the circumstance of my being the eldest son of the late Dr. Fox, of Brislington, the proprietor of an extensive Asylum for Lunatics, which has afforded me an opportunity of being intimately acquainted with the management of the insane from my earliest recollection; having dwelt under the same roof, and occasionally engaged in their care and direction.

I remain, Sir, your obedient Servant,

HENRY HAWES FOX.

Address—HENRY HAWES FOX, M.D.
Northwoods, near Winterbourne, Bristol.

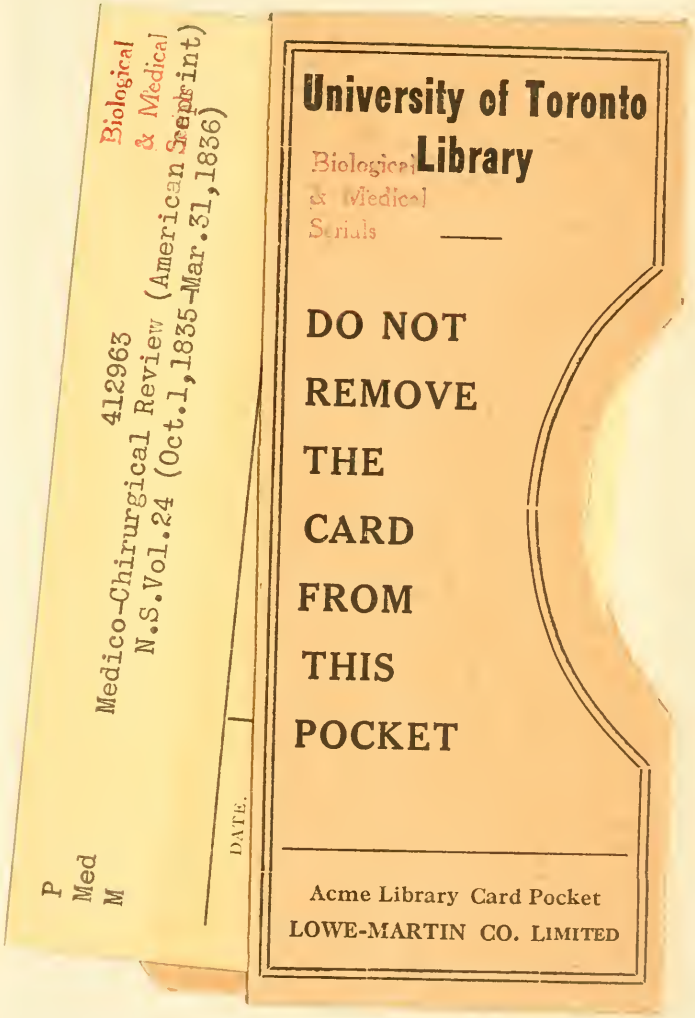
The following explanation and illustration of the effects of associating the Insane may not be uninteresting.

That the greatest benefit accrues to the insane from their associating together, is a fact well established by experience, but one that speculative reasoning could hardly have anticipated. Once, however, clearly ascertained, it may admit of explanation, and, from the unfortunate prevalence of the malady, the inquiry is most important.

In partial insanity, which is the usual form of mental derangement in the chronic stage, the judgment is mostly unimpaired on subjects not connected with the prevailing illusion; and the feelings at the same time, instead of becoming obtuse, are more frequently exalted or rendered highly acute. From this it follows, where numbers are associated together, that each individual soon becomes aware of the errors of others, however slow to suspect his own. This discovery, which among the sane is too apt to call forth supercilious contempt, seems to awaken in a community of the insane only

feelings of indulgence and commiseration. In many cases, the delicacy observed towards each other is such as will only be credited by those who have witnessed it. Now, while this kindness tends, on the one hand, to soothe the irritation of the invalid, the continual observance of each other's illusions has a tendency, on the other, to awaken in the mind of each a doubt regarding the soundness of his own views; for, notwithstanding the delicacy shewn to himself, he cannot fail to perceive that his own notions, on certain points, are esteemed erroneous by those around him. This doubt once awakened, naturally leads to self-examination, and this, if preceded by a restoration of the bodily organs to a healthful state of feeling and action, often terminates in conviction, and proves the first step to convalescence.

To effect this return to a healthful state of feeling requires, however, the combined influence of physical and moral treatment; the physical calling for knowledge and experience in the physician, and the moral for uninterrupted kindness and discretion in the attendants, under his control. But this is far from all;—the moral treatment demands, first, entire seclusion from relatives and friends, thus breaking through former trains of thought and feeling; then perfect acquaintance in the physician with the character, temper, and disposition of each individual, which can only be gained by close attention, with the opportunities which a private asylum affords; to this must be added constant occupation or amusement of the patient to prevent his mind from dwelling on its own morbid impressions; and, those who have been accustomed to move in the higher sphere of life, require those comforts and conveniences which habit has rendered indispensable.

A striking illustration of the good effects of the association of the insane occurred in the course of this year by an invalid being placed under my care, who imagined that the whole national debt was imposed upon him to pay, and in default of payment, that he was to be blown up with gunpowder! During the Summer, a gentleman from Devonshire, extensively engaged in commerce, was likewise committed to my charge, who had been insane during the preceding nine months, in consequence of his circumstances being somewhat impaired by the failure of a neighboring bank. He imagined that he was involved to the extent of millions, and that he was irretrievably ruined. He was associated on the morning following his arrival with the former invalid, to whom he very fully detailed the history of his misery. He was heard with great attention and sympathy, and when he had concluded his narrative, the former invalid simply replied, "Pugh! pugh! pugh!" with a corresponding motion of the hand, "I owe trillions!" These persons continued to be associated during the three succeeding days, when the last invalid addressed his companion by remarking upon the folly of his notion with respect to the national debt, and conjuring him to forsake the idea; observing, that "I thought as you do three days ago, but I see it is all a fallacy, that there is no foundation for it, and that I am no more embarrassed than you are." From that moment, the gentleman from Devonshire relinquished his morbid hallucination, became well, and returned in a few weeks perfectly restored in health, both of body and mind—the former being very imperfect upon his arrival. It appeared that the last invalid was so forcibly impressed with the folly of the idea entertained by his companion, that it roused him to a more complete examination of his own mind, and produced the happy result of his almost immediate recovery.

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